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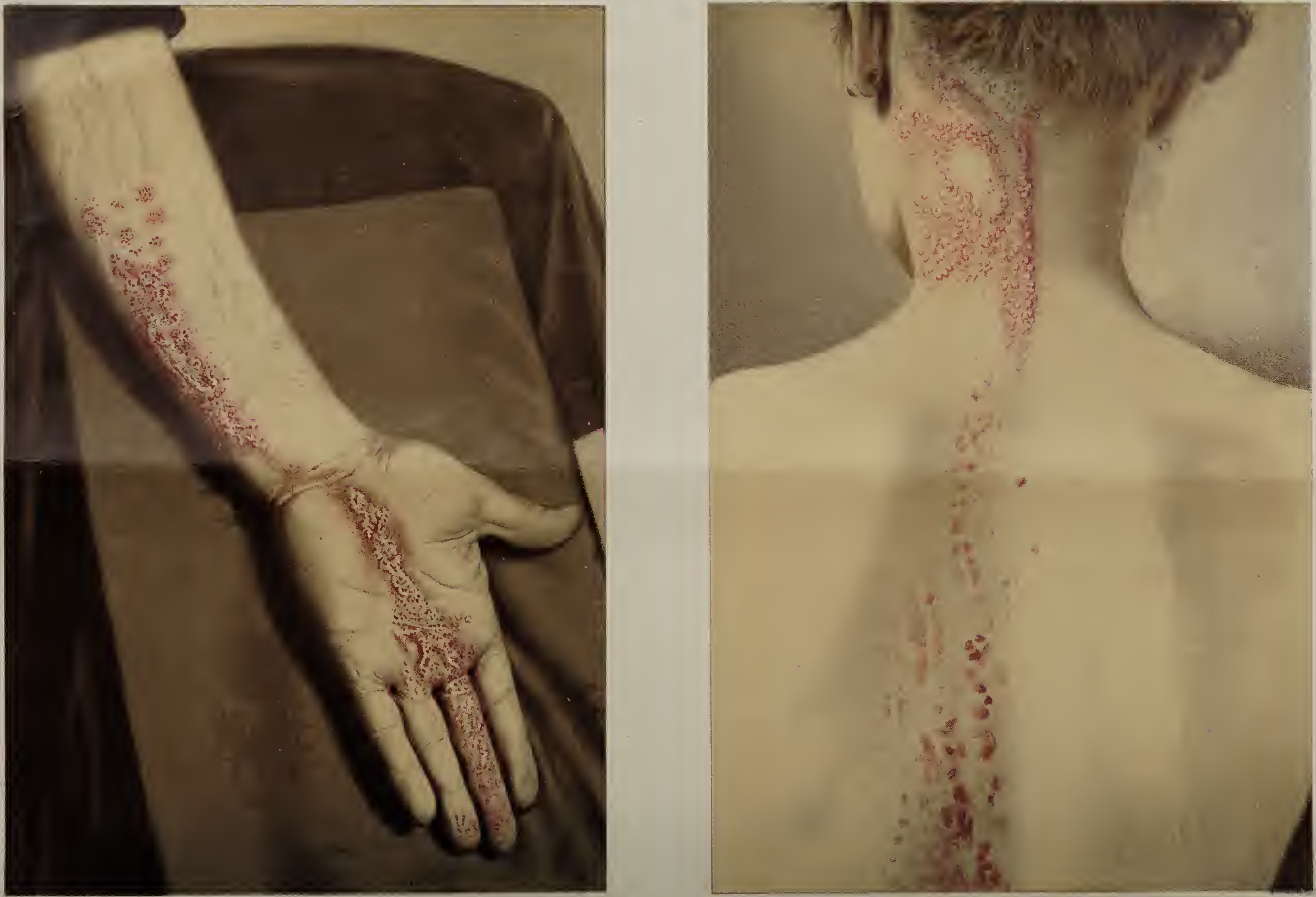

CASE I.

CASE II.

DR. MORROW'S CASES OF LINEAR NÆVUS.

THE NEW YORK MEDICAL JOURNAL, January 1, 1898.

Original Communications.

A REPORT OF TWO CASES OF LINEAR NÆVUS,

WITH REMARKS ON ITS NATURE AND NOMENCLATURE.*

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The two cases which form the subject of this paper are examples of a skin affection for the report of which, under an appropriate title, the nomenclature of this association makes no provision. The student of dermatology will search his text-books in vain for a detailed description of its clinical characteristics, its nature, and pathology. Under the head of ichthyosis, nævus, or papilloma, according to the fancy of the author, he may find a brief reference to it, coupled, perhaps, with an expression of uncertainty as to its proper position in the nosological category. And yet the affection in question enjoys the distinction of a nomenclature of most bewildering richness and variety, and current medical literature abounds in reports of cases. Indeed, the names suggested for this dermatosis are almost as numerous as are the cases recorded. It must be admitted that this wealth of titles, however creditable to the inventive resources of the dermatological writer, is an evidence of the looseness of our terminology, and is calculated to create confusion.

Among the titles suggested may be mentioned the following: Ichthyosis hystrix congenita, ichthyosis cornea, ichthyosis linearis neuropathica (Koren), ichthyosis cornea (hystrix) partialis (Philippson), nævus unius lateris (Bärensprung), nævus verrucosus, nævus nervosus (Simon), nævus papillaris nervosus (Neumann), nævus verruqueux unilatéral (Muller), nævus verruqueux linéaire (Galewsky), nævus verruqueux zoniformis (Brault), nævus lichenoïde, nævus lichenoïde keratopilaire (Hallopeau), nævus kératosique systématisé, papilloma neuroticum, papillome corné névrotique (Mathieu), papilloma essentiale neuropathicum (Gerhardt), papilloma neuropathicum unilaterale, unilateral papilloma, papillome eczématiforme, eczema neuroticum, keratose linéaire systématisée, congenital papillary streaks, etc.

Under these titles, and others not quoted, have been reported over a hundred cases of a peculiar dystrophy of the skin, which present certain objective characters sufficiently similar, it would seem, to justify their inclusion within the same category. The more typical characteristics of this affection may be briefly summarized as follows:

1. *Its Linear Disposition.*—In almost all cases the eruptive elements occur in the form of distinct streaks or bands following the long axis of the limb, or directed transversely upon the trunk, which are commonly continuous, but may be broken and interrupted by interspaces of healthy skin.

In some cases the eruption occurs in parallel streaks, sometimes in radiating bands; in others it shows a branched or dendritic arrangement, with an expansion into circumscribed patches or plaques. In certain cases the eruption follows the course of definite nerve tracts, or is superimposed on the lines of Voigt; while in others no such topographical relation to the course of the nerves or the boundary lines of their territories can be traced.

2. *Its Unilateral Distribution.*—The absolute limitation of the eruption to one half of the body is so invariable that the qualifying term unius lateris or unilateral has been applied as indicating a distinctive characteristic.

3. *Its Papillary or Verrucose Character.*—In most cases the eruptive elements are constituted by a hypertrophy of the epidermal and papillary structures, and consist of corneous asperities, papillary elevations, or warty growths, which may be discrete or closely pressed together, coherent at their bases and separated by lines or furrows. In some cases they occur in the form of flattened lichenoid papules, more or less scaly, suggesting in aspect a lichenoid eczema.

4. The affection is of congenital origin, commonly present at birth or manifest within the first several months, but it may appear for the first time during the period of adolescence or later.

5. Sensory disturbances are often a marked feature, but may be entirely absent. Under the influence of external irritation, as pressure or stimulating applications, it may become the seat of an artificial dermatitis, with intense subjective sensation.

6. The affection may increase in extent, remain stationary, spontaneously retrogress, or it may undergo various degenerative changes—exceptionally, a malignant transformation.

Case I.—N. H. B., a healthy-looking man, aged twenty-nine years. Family history good; father, mother, and two sisters living and in good health. According to the patient's statement, the disease first appeared about twelve years ago as a scaly patch in the middle of the left palm, which gradually spread upward and downward in a bandlike form. Two or three months later a similar patch appeared on the forearm just above the wrist, which gradually crept upward toward the elbow.

The eruption now extends in a continuous band from the tip of the middle finger along the middle of the palm to the annular ligament of the wrist. For about an inch over the flexure of the wrist the band narrows to a thin but quite distinct papillary streak, made up of reddish papules arranged in a linear series, which is deflected from the centre and passes obliquely to the ulnar border. It then broadens as it extends upward along the inner anterior aspect of the forearm until it terminates in scattered lesions about midway between the wrist and the elbow.

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* Read at the annual meeting of the American Dermatological Association.

Upon the palmar surface the band is from one to three centimetres in width, deeply pigmented, the surface elevated, rough and harsh to the feel, and covered with white epidermal scales. There is an expansion of the band at the root of the middle and ring fingers, where the eruption has crept over the interspace between them, showing a number of reddish scaly papules along the inner border of the ring finger, with a circumscribed patch on the distal extremity of this finger. Where the surface scales have been removed by the application of salicylic or mercurial plaster the palmar lesion shows as a darkly pigmented band closely dotted with hundreds of minute pin-point-sized depressions, which probably correspond to the orifices of the sweat glands. Each opening is stopped up with a white corneous plug, which is extremely adherent and can not be readily dislodged. This peculiarity is especially to be noted at the borders of the band, which appear to be widening.

Above the wrist the band shows as two parallel streaks, confluent in places, but distinct for the most part, consisting of pea-sized reddish lesions, discrete or coherent at their bases. Examined closely, each lesion is seen to be made up of a group of minute pinhead-sized papules, corresponding, apparently, to the glandular structures. Through some of them hairs are seen to protrude. The lesions are surrounded by a pale reddish border, which, under the influence of stimulating applications, deepens into an inflammatory redness. This erythematous border is especially marked at the outer limits of the band and marks the transition between the diseased and healthy skin.

It will be seen that the innervation of the affected surface corresponds to the distribution of the palmar cutaneous branch of the median nerve, and above the wrist to that of the anterior branch of the internal cutaneous nerve.

In this case itching was a pronounced and constant symptom.

CASE II.—The patient was a young married woman, aged twenty-five years, of slight build and nervous temperament. According to her statement, the disease was first manifest about seven years ago in the form of a reddish streak, like a scratch mark, on the back of the neck, which gradually extended up into the scalp and down the left side of the neck. Two years later she observed two or three parallel streaks extending down between the shoulders on the left of the spine. The present appearance and distribution are portrayed in the colored photograph. There will be seen on the back of the neck, immediately to the left of the spine, a reddish scaly band passing up from the seventh cervical vertebra and prolonged into the hairy scalp. Parallel with this more central streak, and continuous with it at certain points, is seen a similar band, which broadens out upon the lower side of the neck into an irregularly circumscribed patch or placard of papillary elevations. A little higher up it arches outward, sending a branch which terminates in a corymbiform expansion just below the ear. Continuing obliquely upward, it joins a prolongation from the central band at the margin of the hairy scalp. The ramifications within the hairy scalp can not be seen in the picture. It will be seen that islets of healthy skin are circumscribed by this dendritic arrangement, giving to the eruption as a whole a roughly reticulated appearance.

Below the nucha, extending down between the shoulders and terminating about the waist line, the eruption is seen to consist of three or four parallel streaks formed by the close juxtaposition of polygonal flattened papules arranged in a linear series.

Upon the back of the neck the eruptive elements consist of flattened scaly papules, red and shiny when the scales are removed, closely pressed together, coherent at their bases, but separated above by minute lines which correspond to the lines of motion of the skin.

The surface is itchy, easily irritated, becomes superficially inflamed by stimulant applications, and suggests, except for its configuration, a lichenoid eczema.

It will be seen that the central part of the cervical region affected is innervated by branches of the occipitalis major, the lateral part by the occipitalis minor, while the dorsal region is supplied by the cutaneous branches of the posterior division of the spinal nerves.

An analysis of the clinical features of a large number of cases of this group shows that no two are exactly alike. While hyperplasia of the epidermis constitutes the dominant trait, they exhibit the widest variations in histological structure accordingly as the vessels, the papillary body, or the glandular elements of the skin are chiefly involved in the morbid process. They differ not only in their morbid form but in their date of development and evolutionary mode. The question is whether these differences in structure represent differences in pathological type or whether a logical scheme of classification will embrace all these cases under a common name, and, if so, what that name shall be.

By the older text-book writers this affection was classed as a local form of ichthyosis. It is scarcely necessary to point out the defect of a classification which identifies two diseases on the basis of a slight objective resemblance, while ignoring radical and essential differences. Ichthyosis is a generalized cutaneous malformation, symmetrical in its development; it is fixed and unchangeable. The affection in question is essentially localized and limited to one side. It may undergo various evolutionary changes. Besides, their anatomical characters distinguish them absolutely.

While the name papilloma is not objectionable on morphological grounds, this term has been applied to a variety of papillary proliferations originating under such widely different ætiological conditions that it conveys no distinctive signification. Besides, most modern writers restrict the employment of papilloma to secondary formations—consecutive to chronic inflammations or other pathological processes in the skin.

Shall these cases be classed under the collective name of nævus? It would be difficult to give a satisfactory definition of an affection representing so many different morbid productions as attach to nævus. Perhaps an acceptable definition would be congenital alterations in the color and texture of the skin limited to a portion more or less extended of the external integument. In its ancient sense nævus was applied to birthmarks due to antenatal influence; but its signification has been enlarged not only in respect to the structures which enter into its composition, but also the mode and date of its development. Instead of being restricted to vascular and pigmentary changes, it is now recognized that nævus includes hypertrophies of the corneous and papillary layers, hyperplasias of the connective and fibrous tissues resulting in various tumor formations, alterations in the glandular apparatus of the skin, in which category enter adenoma, cystadenoma, and other benign tumors. The pathological field of nævus is being constantly enlarged.

Selhorst * has recently described under the title of nævus acneiformis unilateralis a striated eruption following the distribution of the cutaneous nerves of the neck, chest, abdomen, and arms to the second phalanges, where the sebaceous glands cease. This area was profusely dotted with large simple and double comedones. Thibierge † has also reported, under the title of nævus acnéique unilatéral en bandes et plaques à comedon, a case of nævus occupying the clavicular region, the side of the neck, the antero-superior thoracic, and the superior dorsal regions. It is very probable that some of the cases described by Hutchinson as nævus lupus should be classified as examples of the affection under consideration.

The character of congenitality, if insisted upon as necessary to our conception of nævus, might at first glance appear to exclude from this category many cases which first develop in adolescent or early adult life. While nævi are congenital in respect to their being due to some anatomic or embryonic peculiarity, their superficial development may not take place until the period of puberty or later. We may therefore have early and late nævi. Even Besnier, who strongly insists that the essential quality of a nævus is that it exists at birth, admits that "the term is applicable to affections of which the germ exists embryonically, but may not develop until an ulterior period. A great number of nævi, small in infancy, remain absolutely unknown, and may not reveal themselves until adolescence—an epoch at which they begin to proliferate." This view is shared by others. Unna defines nævi as congenital malformations with an hereditary basis, which have their foundations laid in embryonic life, but which may not be evident until mature age.

It would appear, then, that in its enlarged modern signification the term nævus is sufficiently comprehensive to embrace all these cases. Furthermore, its use has been sanctioned by the best authorities.

In many of the titles above enumerated, in addition to the specific name indicating the nature of the disease, qualifying terms have been employed to designate its objective characters and also to express the author's conception of its neuropathology.

In regard to the qualificatives which have been employed to describe the surface changes, such as ichthyosiform, verrucose, papillary, keratosic, lichenoid, eczematiforme, etc., none is generally applicable. In the interests of simplicity and conciseness it would be well to drop these qualifying terms, which express characters peculiar to the individual case, but which are not common to all. The term keratosic, implying both corneous and papillary hyperplasia, is the most expressive.

For the same reason we should drop the qualificative unius lateris. Unilaterality is not peculiar to this form of nævus. Besides, if we have a name which identifies the affection, its limitation to one side will be understood, just as in the case of herpes zoster.

The term linear or striated should be retained, as it expresses the most essential and distinctive characteristic. The line of unity which runs through all these diverse clinical varieties and constitutes the type form of this particular class of nævi is their topographical distribution.

In this connection brief reference may be made to the anatomical conditions which are supposed to determine the linear disposition of this form of nævus.

Three theories have been prominently put forth:

1. That there is a relationship between the course of the eruption and the superficial or deep nerves.

2. That the distribution of the eruption follows the system of Voigt's boundary lines—that is, the lines of partition between the different nerve areas of the skin.

3. That the streaked character of the affection corresponds to the course of the lymphatic vessels.

Finally, there remains to be considered the admissibility of the term neuropathic, as applied to this affection.

The theory of the nervous origin of linear nævi has been accepted as an article of pathological faith by most writers.

1. It is based upon the assumption that as the course of the eruption in many cases corresponds to definite tracts of the superficial or deep nerves, it implies a causal connection.

2. The theory is supported by the clinical fact that papillary hypertrophies have been observed along the course of a nerve as the result of traumatism, due, it is claimed, to an ascending degeneration.

3. By the association of nævus with neuropathic states, as its common occurrence in backward, feeble-minded, and neurotic children.

4. Its frequent coincidence with affections of the peripheric or central nervous apparatus, such, for example, as meningocele, morbid conditions of the spinal cord, and other forms of central disorders, deficient muscular development of the affected side, etc. In Meissner's case there was malnutrition of the left side; the left

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* *British Journal of Dermatology*, November, 1896.

† *Annales de dermatologie et de syphiligraphie*, November, 1896.

angle of the mouth dropped, hearing on the left side was deficient, the child dragged its left leg in walking, and there were other symptoms pointing to a lesion of the medulla oblongata as an ætiological factor. In a case of Arnozan's the nævus was associated with Jacksonian epilepsy.

5. Its analogy with herpes zoster, the neuritic origin of which has been demonstrated.

The nervous theory of its origin is contravened by the fact that in perhaps the majority of cases the eruption does not correspond to the course of any known nerve. Lewin, from an analysis of one hundred cases, states that only in about forty cases did the configuration correspond to the nerves in such a manner that one could suppose a nervous influence; in the remaining sixty cases no such topographical relation could be traced. However plausible the theory of the neuritic origin of these lesions, it is difficult to understand the mechanism of their production. Why a trophoneurosis should affect different epidermic structures and be limited to a circumscribed portion of the peripheric system can not be explained. Furthermore, the existence of lesions of the nerve structures, either central of peripheric, has not been demonstrated by anatomico-pathological investigations.

It must be admitted that the neural pathology of these anomalies is very obscure. In the absence of any positive proof of this causal connection with alterations in the nerves the application of the qualifying term neuropathic appears unwarranted.

We may therefore conclude that the title of linear nævi or nævi systématisés, in the sense used by French writers, sufficiently identifies the affection, while possessing the advantages of simplicity and conciseness.

ASYLUM REFORMS FROM THE GYNÆCOLOGICAL STANDPOINT.*

By CHARLES A. L. REED, A. M., M. D.,

CINCINNATI.

Mr. President and Gentlemen: In accepting your kind invitation to address you on this auspicious occasion—an honor for which I am profoundly grateful—I feel that an apology is due you for utilizing the opportunity to again discuss in even a desultory way a subject to which I have already and repeatedly called the attention of the profession. It has been several years since, in an address delivered in the city of Buffalo, I emphasized, as others had done before me, the fact that there existed, in certain cases, a causal relationship between diseases of the pelvic organs and certain nervous and mental states in women; and I also, on that occasion, urged that the treatment of these cases in asylums should conform, as it did not then conform, with this important and pivotal fact. I then advocated reforms which would make our asylums something better than bastilles, our talented superintendents something better than jailers and gardeners, and the unfortunate patients something better than moral lepers to be subjected to practically no other treatment than a harsh and unsympathetic quarantine. I urged that these people be treated for the diseases that they had—for diseases of the eye, the ear, the nose, the throat, the stomach, the kidneys, and the genital organs—in short, that they should be treated just like any other sick people, without reference to their sanity or their insanity; and that they should be treated as far as possible by those who give particular attention to the respective special departments of practice; and it was further urged that in many cases a mental cure would thus result from the removal of a local or peripheral cause. The suggestion was one friendly to the superintendents, as it contemplated furnishing them with a corps of assistants who would relieve them of much of the work and responsibility of a task the magnitude of which places its proper and conscientious discharge beyond the powers, mental and physical, of the veriest Colossus of the profession. I received letters of congratulation from superintendents all over the country. I was at the same time, however, subjected to a fusillade of criticism which amounted more to protest and misrepresentation than to any discussion of scientific points. The protests in each instance seemed to be aimed at some imagined attack upon some fancied sense of personal and official importance. There also seemed to be a vein of resentment at my implied criticism that an asylum superintendent could not reasonably be expected to be an accomplished specialist in all departments of medical practice, an able executive, an astute financier, a successful farmer, a scientific breeder of stock, a jailer, and a sagacious politician all at the same time. I felt that as honest men superintendents could not do justice to their patients and, for instance, to breeding swine on the asylum farm at the same time. I urged the suggestion then in the interest of the patients, but this did not seem to appeal to certain sensibilities; I repeat it now in the interest of the swine, with the hope confidently entertained that this view of the case will arouse the enthusiastic approval of my critics. It can be truthfully stated, however, in all seriousness, that the manifest interestedness of my critics relieved me in each and every instance of the responsibility of a reply. But after all such foolish little carpings by foolish little men the gratifying fact remains, and one for which I claim no credit, that since the publication of my Buffalo address the practice of giving women the benefit of skilled surgeons for the relief of genital disorders, and of other skilled practitioners for the relief of other disorders, has become established in many asylums of which I have knowledge. It is gratifying, also, to note that in every instance the reform has been instigated by superintendents, among whom may be mentioned such progressive spirits as Rohé, of Maryland, Burr, of Michigan, Richardson, Tobey, Dunlap, and Cook, of Ohio, and others. The surgical results reported from these various sources are just as satisfactory among the insane as among the sane, while the mental results are among the most gratifying features of the new psychiatry.

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* An address delivered by invitation before the Tri-State Medical Society of Georgia, Alabama, and Tennessee, at Nashville, Tenn., October 13, 1897

It may be urged, and I confess with a certain show of reason, that, if such progress is being made, why agitate the subject anew? I assure you I would have no disposition to pursue the thankless task if it were not for the fact that there is no feature of my work which has impressed me more profoundly, and which is impressing me more profoundly to-day than the increasing frequency of applications for treatment by women with mild nervous and mental symptoms in whom there exists some manifest functional or organic trouble within the pelvis. If there is any additional circumstance connected with this fact which impresses me more than any other, it is that these women are almost uniformly cured, at least invariably improved, by a comprehensive course of treatment which takes into account at once their nervous and general constitutional state, but which is at the same time directed particularly to the relief of any diseased state about the womb, the ovaries, or other genital organs. This statement would carry with it but little significance if it were not also true that, almost without exception, these cases have been subjected to routine treatment directed exclusively to the nervous system, but in which treatment of the diseased sexual organs has played no part. In candor it must be admitted that some of these cases have been subjected to treatment of the other extreme —*i. e.*, exclusive attention to pelvic states without reference to the condition of the nervous system or of the general health. Frankness compels me to go a step further and state that in more than one instance these women have been the *habituées* of public asylums or private sanatoria.

In the first place I wish to state two points very distinctly: First, I do not believe in operating upon the female genital organs at any time, except for the repair of injury or the removal of otherwise incurable organic disease; and, second, the converse of the foregoing, I do not believe in removing manifestly healthy tissue or healthy organs at any time for the relief of assumed reflex disorders. The only exception to the latter rule that I can now imagine would be in a case of acute insanity recurring with each menstrual flow. I have not encountered such a case, but were I to do so I now think that I should follow the practice of Goodell * and remove the appendages, with the object of precipitating the menopause. The little observation that has fallen to my lot impels me to the belief that the appendages in these cases are the seat of serious organic disease, but which can not, as a rule, be detected by preliminary examination. There is another point that I wish to have understood, too, although I have already alluded to it, and that is that the present state of our knowledge does not justify us in operating upon these cases with the object of effecting a mental cure. We are not yet in condition to promise definite results in that regard. The most that can be done, and the least that ought to be done, is to operate without reference to sanity or insanity, and the most that we can promise, and the least that we ought to promise, is to merely state the fact that mental cures have followed this line of treatment. I proceed upon the theory that a woman ought not to be permitted to die from, for instance, explosion of a pus tube, simply because she is either crazy or threatened with insanity. And what is true of the insane is equally true of many cases of distinctly nervous disease. Given a case of, for instance, neurasthenia, that may have been caused in the first instance by overwork, but in which follicular degeneration of the ovaries—the most painful affection that can befall a woman—has developed as an intercurrent affection. As well may one try to restore the poise and tone and integrity of that nervous system while the patient has a painful foreign body lodged for months in the eye, as while the peripheral nerves within the pelvis are being nagged into revolt by being pinched between unruptured and distended follicles. This, I assure you, is not a fanciful picture, but one that has numbers of parallels among my case records, and among the case records of every observant practitioner of gynæcology.

We, of course, are not in position to state just what intrapelvic conditions will produce certain neurotic and mental states, and, conversely, we are not in position to predicate with any degree of certainty what genital lesions are indicated by any given nervous or mental phenomena. This fact indicates the very elementary state of our knowledge upon this very important subject. If, however, the vast clinical and pathological material which has abounded in our asylums for the insane for years had been carefully studied and intelligently interpreted we would not now be forced to this humiliating confession. Let us indulge the hope that the new *régime*, which contemplates the study of these cases alike by the pathologist, the surgeon, the ophthalmologist, the aurist, the gynæcologist, together with the alienist and other students of special departments of our science, will shed a ray of light where now all is darkness. I warn my friends the alienists that they can not find fault with the gynæcologists for the limitations of knowledge upon this subject.

> "Shake not thy gory locks at me!
> Thou canst not say I did it."

The fault is entirely with the madhouse-keepers—that type of jailer who is, happily, rapidly disappearing, but the discordant echo of whose voice yet mars the councils of progress. The meagreness of fundamental knowledge on this important subject must act as a wholesome stimulus to those who approach the study from new and independent points of view.

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* *Medical News*, Philadelphia, December 9, 1893.

It has, of course, become apparent to this audience that the implied is vastly broader than the announced subject of my remarks. This is true. I am not, however permitted to discuss the general subject in all of its phases. Unlike my friends, the old-fashioned superintendents, I am not blessed with that universality of knowledge that will justify me, even in my own conceit, in presuming to debate those phases of the question that come more properly within the purview of the ophthalmologists, the aurists, the orthopædists, the general surgeons, and more particularly that important and deservedly influential class of specialists—the practitioners of internal medicine. I am at liberty only to offer my observations upon that phase of the question which involves the ætiological relationship existing between diseases of the pelvic organs and mental and nerve states. Happily, the time has passed when individual case reports were required to establish the validity of this doctrine. The testimony is affirmative, confirmatory, and cumulative. The literature teems with it. We are now in position to speak in more general terms, although, unhappily, through the paucity of scientific results in the asylums, whence only conclusions upon this subject can be derived, we are not permitted to predicate our observations upon demonstrated pathological connections between the peripheral disease and the mental or central nervous phenomena. We have only, as a primary fact, the removal of hopelessly diseased organs or structures, and as a secondary fact the restoration of normal nerve and mental states. Between the primary and the secondary fact we have but few if any demonstrated chains of connection, yet the frequency with which these facts occur in the relation indicated is an assurance that such an actual connection does exist. The philosophy, while lacking a physical demonstration, yet stands upon a firm clinical basis. It were better, under all the circumstances, to rest upon the truth as far as demonstrated, than to venture into the uncertain and dangerous field of hypothesis and speculation.

The latest manifesto comes from Italy, and is the joint production of two able and evidently painstaking alienists, Angelucci and Paraccini,* of the provincial asylum at Macerata. According to the review of this article in the *Boston Medical and Surgical Journal,* these gentlemen conducted an extensive investigation in the public and private asylums and psychiatric clinics of the various European countries. The most unsatisfactory fact revealed by this investigation is that the practice of operating upon the inmates of these institutions for the relief of even manifestly organic diseases of the female genitalia has not been as uniformly adopted as would seem to be justified by its humane and beneficent results in the United States, for there were a hundred and thirty-seven institutions that reported no patients of the sort. The most encouraging fact, however, was that in all of this extensive inquiry, embracing populous nations and numerous large institutions thronged with patients, there were found but twenty-four women who had been neither hysterical nor insane, but in whom insanity had developed following the removal of diseased organs—presumably uteri or their annexa. When the activity of European cities in this branch of practice is remembered, it seems probable that no similarly serious operations upon other parts of the body enjoy equal immunity from grave psychic sequelæ. When it is recalled that all of these women would probably have died without the operation, and that many of them will probably recover from their transient alienation, the beneficence of the practice becomes apparent. There indeed seems to have been no experience whatever in the removal of diseased pelvic organs from women already insane, but we are informed that eighteen "nervous" women were subjected to this treatment, and that of these the gratifying number of fifty per cent. recovered entirely, while thirty-three and a third per cent. were unaffected. Three only out of the whole number failed to have arrested their previous tendency to insanity. In the removal of healthy organs from hysterical and insane women there seems to have been a relatively very large experience, and one almost unwarranted when viewed from the standpoint of our conservative American gynæcology. A total of sixty-five women had healthy genitalia removed for the cure of various conditions, and it is surprising to learn that of these a grand total of seventeen experienced favorable results. While the number of recoveries in this class of cases is surprisingly large, the general result must be accepted as confirmatory of the views that I have already and repeatedly advocated, views that I believe are expressive of gynæcological practice in the United States—viz., that with the single exception that I have mentioned removal of the healthy female genitalia is unwarranted.

But, Mr. President, I have already said that we may now begin to speak in those general terms which are justified by the observation and classification of a large number of concrete facts. These facts are furnished us by researches in the laboratories of experimental medicine and by the observations of clinicians outside the asylums. From these sources we begin to have the first glimmering conceptions of a pathology and a therapy. It is true that this philosophy is yet hazy—that it can hardly be said to have passed far beyond the nebulous period in the process of evolution, and yet I fancy that to a large extent it has, almost unconsciously to many practitioners, served as the basis of treatment by which they have realized their very best results.

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* *New York Medical Journal*, October 9, 1897; from *Revista sperimentale di freniatria*, June, 1897.

It is the philosophy which is based upon primary physiological facts and upon known therapeutic data. So long as we cling to this basis, and avoid vain speculations in the realm of metaphysical psychiatry, we can not go far astray in the management of our cases. When we use this knowledge for the detection of the natural sequence of events, from the primary departure from health to the ultimate composite pathological state with which we are confronted, we can not but feel that we have taken the initial step in the direction of rational practice. I do not know of any field of a physician's activity that gives better play to such philosophical procedure as in that phase of gynæcic practice in which certain so-called neurotic states exist as concomitant conditions. It is exceedingly proper that I should discuss them in this connection because, as a rule, these very neurotic states are the very precursors of these more pronounced forms of nervous and mental disease that in many instances result in the commitment of their victims to public and private institutions. They are, therefore, precisely the conditions that come under the observation of the family physician, upon whose intelligent understanding and sagacious treatment depend not only the future health and sanity but, in many instances, the life of the patient herself.

It is no fanciful picture that I paint when I call your attention to a young woman, say of about thirty, who has been married for several years and has a child or two. She comes to us looking pale and emaciated, and her hand trembles when she extends to us her first greeting. There is a tremor in her voice as she tells us that for a period which may vary from several months to several years she has been undergoing a progressive decline, which has brought her to a condition in strange and painful contrast with the ruddy health of her girlhood. During all of this time she has been "nervous," irritable, sleepless; hope long since left her, and she now merely exists under the depressing influence of a sense of impending calamity; yet, on inquiry, we can not learn that her children are an undue tax, that her husband is unkind, or that her home is not everything that it should be. The trouble comes from within. We interrogate her a little further, and we find that her functions are awry; her appetite is poor; her bowels move only when impelled to do so by a laxative; her bladder is irritable and her urine burns her; her menstruation has grown scanty and painful; her skin is cold and sticky; and she has latterly grown headachy and has explosions of migraine. Her sclerotics are of the color of a Venetian sky; her pupils are dilated; her respiration is too rapid; her pulse is in the neighborhood of a hundred, and she says that now and then she has some irregularity of the heart. She continues her story by telling of Dr. This One and Dr. That One to whom she has applied for relief. She gives us vivid descriptions of hydropathic procedures, and can almost describe the differential mechanical features of galvanic, faradaic, and franklinic electrical machines. She has had massage, and that great panacea—travel and rest—the paradox we so often prescribe when at our wits' end. She knows her materia medica, too, and gives us new points on arsenic and nux vomica, which made her worse; she knows all about pepsin, diastase, malt, and the various constructors which failed to construct; she has had an experience with iron, and had to abandon it in a hurry; quinine fairly crazed her; she has had phenacetine and acetanilide and their congeners with varying degrees of temporary relief; while latterly she has had a prolonged experience with the salicylates, with which she has grown so familiar that she can almost give us the atomicity of the various preparations. She thinks she is a little better, but she comes to us for relief from her menstruation, which was, the last time, attended with such cramps and such pain in her pelvis and up her back and in her temples that she dreads the approach of the next period. On examination we find what: A painful cervical scar or a chronic endometritis? A version or a flexion? A pedunculated myoma or a general uterine hyperplasia? A hydrops folliculorum or an ovarian cyst? A hydrosalpinx or a pyosalpinx? It makes but little difference, so far as our present purpose is concerned, for upon careful cross-questioning we succeed in eliciting a history of this difficulty which antedates that of her general decline. The rest of the story is soon told: the pathologic lesion, whatever it may be, is removed; there is a speedy surgical convalescence; the constitutional treatment is resumed, but with what different effect? There is now a "response" to the remedies. In a few months we meet in the person of our whilom patient a bright-eyed and rosy-cheeked woman, from whose life the clouds have disappeared, whose threatened disasters have been averted, and in whose home love and contentment have again become cherished idols.

As I before stated, Mr. President, this is no fanciful picture—in its delineation there is no overdoing of chromatic effect. These patients exist. But what is the explanation? Why did not the therapy to which she previously had been subjected produce the desired result? Why were the remedies so efficacious after the operation? Why were we thus able to save a mother to her children—to cheat a yawning asylum of an expected victim?

I feel that in this presence I may dispose of this part of my subject with great brevity. We have premised that the pelvic lesion was the initial one. Whatever that lesion may have been, it must have exerted some influence upon the terminal sympathetic and vasomotor filaments in the uterus or the annexa. An impression of this kind—call it "irritation" if you please—must produce a corresponding impression upon the general sympathetic and vasomotor tract. This fact finds ample verification in the vomiting, constipation, and general superficial capillary turgescence of pregnancy, and in certain of the so-called reflex phenomena incident to menstruation. There may be in addition a nidus of infection in these organs, the toxic effect of which is always inhibitory of sympathetic and vasomotor nerve function. But without reference to this fact, the next link in the chain of phenomena to which I call your attention is that of impaired peristalsis—the very first effect of vasomotor disturbances arising in the pelvis. Then comes what? With the arrest of muscular activity in the walls of the intestines comes a corresponding diminution in the activity of the intestinal glands; the fæcal current is retarded, and at this point we find ourselves confronted with a multitude of changes that are so nearly coincident as to defy description in the order of their occurrence. Flatulence is about the first symptom complained of and is the evidence of putrefactive changes. Putrefactive changes, upon whatever micro-organism they may primarily depend, mean the elaboration of certain toxines, some only of which have been isolated. For our present purpose we had better consider them under the general title of toxines, by which of course shall be implied products of metabolism, such as stercorine, the uric-acid group, embracing xanthine, paraxanthine, and their congeners, including the hypothetical ptomaines. Although stercoræmia, as a distinct clinical entity, has not been so clearly defined as we might wish, we are familiar with the usual phenomena of toxæmia due to alteration of urinary products. Experimentally, in the laboratory, we have seen these products cause rapidity of the pulse, irregularity of the heart, inhibition of the respiratory centres, vasomotor paresis, and death. We have seen, and repeatedly, too, these same phenomena, *sans mort*, in our patients. But let us go back to the chain of phenomena that we were describing. We had just said that the toxines of intra-intestinal decomposition were being elaborated, but we did not mention that another toxic stream was being thrown into the intestinal tract. The bile continues to mingle with the chyme, and happily for the life of the individual the acidity of the chyme precipitates the more poisonous properties of the bile, especially its cholesterin and bilirubin. Other elements, however, have, as demonstrated by Vulpian, more or less of toxicity. These with the products of decomposition undergo resorption. Some of them, it is true, are arrested in the liver, by which they are again thrown off. Others, however, find their way into the general circulation, with disastrous effects upon the blood and upon the nerve centres, and after this upon all the functions involved in the complex process of nutrition. The neurasthenias, the neuralgias, the melancholias are but so many expressions of this auto-intoxication. No wonder, in view of all these facts, that the temporary paralysis of the sensorium by narcotics, the transient bracing up of the nerves by stimulants and electricity, the occasional cleansing of the stomach by lavage, the more salutary antisepsis of the intestines by salol, phenol, or, perhaps better than all, the salicylates—I say no wonder that these remedies, each more or less salutary, had stopped short of cure. The initial, the causal lesion persisted, and, of course, its effects persisted. When the nerve "irritation" within the pelvis was removed, the muscular tone of the intestines was restored, and when it was restored the intestinal glands resumed activity, and the fæcal current moved, and decomposition stopped, and toxines were not elaborated, and the blood was not contaminated, and the nerve centres were not poisoned, and the emunctories became active, and—the patient got well.

And now I want to stop right here and have a fair understanding. What I have just recounted presents what I believe to be a rational philosophy of cure in some, yes, in many cases. But I implore you to bear me witness that I have only urged it as true in certain, not in all cases. I do not contend that it is the *summum bonum* of pathology and therapy, but I do say that it has sufficient grounds for recognition to entitle it to respectful consideration in our asylums, in a few of which, I am aware, it has already been adopted.

A CONTRIBUTION TO THE STUDY OF THE TREATMENT OF LARYNGEAL PHTHISIS.*

By T. MORRIS MURRAY, M. D.,
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THE object of the present article, gentlemen, is to give, as far as is possible, a report of the progress made in the treatment of laryngeal phthisis, together with the results of my own limited experience, since my last contribution, made in 1893. I stated at that time my belief that good results could be obtained by Krause's method even in the last stages of pulmonary tuberculosis, if lactic acid was brought in thorough contact with the granulating surfaces; that I thought the limitations placed by Krause upon his operation in his essay published in 1886 were unnecessary. In the discussion which followed this view found no supporters. Two years later, however, Krause himself says that he can not consent to the extreme carefulness demanded from many sides in the selection of cases for operation; that even in far-advanced cases, where there is high fever, we can give ease, instead of leaving the patients to suffer. One should not be afraid to go deeply into the tissue, as the patient will bear it well. Capart thinks the operation should be undertaken even in the last stage of the tubercular larynx; that it should be energetic in order to be efficacious, and that, though we may not always effect a cure, relief to the sufferer is certain. Rethi advises operations only when there is good general health. Castex would employ surgical treatment first, when medical treatment is insufficient, also when not contraindicated by general conditions. He thinks laryngotomy worthy of more frequent consideration, but only when lungs are sound and other measures have failed. Laryngectomy, he believes, should never be practised.

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* Read before the American Laryngological Association at its nineteenth annual congress.

Laryngo-fissure is the subject of a monograph by Ernest Crapon; this is a review of fifteen published cases, from which he concludes that the operation never does harm and is occasionally of service. One of these cases is worthy of mention: that of a clergyman, whose voice eleven years after the operation was clear and strong.

Opinions differ as to the conditions which forbid surgical interference in laryngeal phthisis, but with the evidence before us we can not deny its inestimable value. Heryng, in reporting more than two hundred successful cases, supports his advocacy of this method of treatment, and suggests the following conditions as clearly indicating the necessity for surgical interference: First, in tuberculous tumors of the epiglottis; second, in circumscribed, chronic tumorlike infiltrations of the posterior wall of the larnyx which show little inclination to break down; third, in chronic tumors resting on an inflamed base surrounded with proliferating products which resist all other methods of treatment; fourth, in partial disease of larynx, even when the epiglottis, false cords, and lateral ligaments are affected. He advises against operation: First, in advanced phthisis of the lungs with hectic and wasting; second, in diffuse miliary tubercle of larynx and pharynx; third, in all cachectic conditions; fourth, in severe stenosis of the larynx caused by inflammatory swelling of the affected parts. In these cases he recommends tracheotomy as soon as possible.

Gleitsmann advises curetting: First, in primary tubercular disease without lung complications; second, in cases in which concomitant lung disease is either incipient or has stopped short of softening; third, especially in circumscribed ulcerations and infiltrations; fourth, in dense, hard swelling of the arytænoid region, ventricular band, and posterior wall; in tubercular tumors and affections of the epiglottis; fifth, in advanced stages of lung disease, with distress and dysphagia from arytænoid infiltrations. The cases in which he considers it ill-advised are: (1) in advanced pulmonary disease, with hectic; (2) in disseminated tuberculous disease of the larynx, in which there is little or no area of healthy tissue; (3) in extensive infiltrations producing severe stenosis (when he considers tracheotomy indicated). He has reported twelve cases, in each of which pulmonary complications existed, with four recoveries, without relapse in periods varying from six to ten months.

In the discussion upon this subject at the international congress which met in Rome, Ruault, Schmidt, B. Fränkel, Gougenheim, Massuci, Chiari, Glizinski, Hoppman, Flatau, and Sajous argued in favor of the curette. Egidi, Messei, and Garel advocated tracheotomy. Sokolowski, Schmidt, and Hoppman thought even the graver operation of laryngotomy permissible under certain conditions, practically when all other methods have failed.

The value of the curette is, I think, generally conceded. Lenox Browne does not consider it a *sine qua non* in the treatment of laryngeal phthisis, but admits its utility in insuring the effectiveness of the lactic-acid applications. He considers it chiefly useful for the removal of hyperplasias and to clear away necrotic matter. Among those who have reported cases successfully treated in this manner are Hajek, Levy, Caster, Semon, and Symonds, who mentions a patient well two years after operation; a case is reported by Harris in which a good result was obtained by the application of pure ichthyol after curetting in which the lactic-acid applications had failed. Lambert Lack has used successfully in one case pure chromic acid after curetting.

In infiltrations of the epiglottis and arytænoid region, Gleitsmann recommends the galvano-cautery, which he follows with lactic acid. Heryng, in an article upon the use of electrolysis in throat and nose trouble, advises it in some cases of tubercular laryngitis. Srebony is an advocate of this method of treatment.

The successful treatment of laryngeal phthisis without the aid of the curette is undoubtedly possible in many cases, by topical applications, internal medication, and proper climatic surroundings. Among the former nothing as yet known can rank in efficiency with lactic acid. Good results from its application are reported by Garel, Beale, Heryng, Langmaid, Castex, and Capart. Cadier, however, considers creosote and vaseline of greater service. Shurley thinks well of the use of formates of ammonium and sodium; the latter he uses by insufflation, equal parts of starch and formate of sodium; as a spray, five to ten per cent. of ammonium or sodium formate. Langmaid reports good results from a twenty-per-cent. solution of menthol and oil from iodoform. Newman recommends iodoform, alcohol, and ether in concentrated solution. The employment of parachlorphenol is recommended by Spengler, of St. Petersburg; he states that it has decided germicidal properties, and that its soothing action is more prolonged than even that of cocaine. Hedderich says of this remedy that it is most valuable in relieving dysphagia, and reports two cases of apparent cure. Zinn also uses parachlorphenol in ten to twenty per cent. of glycerin solution, and states that tuberculous ulcerations can be made to heal with this application alone after several weeks' treatment only. Ruault reports remarkable success from the application of sulphorcinate of phenol (a solution of phenol in sulphorcinate of sodium). Making daily application of a fifty-per-cent. solution, he treated five hundred cases, and states that the infiltrations undergo sclerosis and heal within from four to six weeks without cicatrix. Heryng reports favorable results from the use of this application, denying, however, its efficacy unless preceded by surgical treatment. He uses a two-per-cent. solution of pyoetanin to the curetted surface, and the sulphorcinate of sodium on the eighth or tenth day. The phenol preparations, he thinks, stimulate absorption and the elimination of tuberculous infiltrations and products and rapidly relieve the dysphagia. S. Solis-Cohen, speaking of the new remedies for the treatment of tuberculous ulceration of the larynx, alludes to the local application of bromoform, formaldehyde, guaiacol, and protonuclein. Schadewaldt reports a case of tuberculous ulceration of the vocal cord cured by the rubbing in of creolin. Comparad has reported a case of advanced tuberculous disease of the larynx in which the patient was cured by the application of testicular serum. Chappell suggests the submucous injection of creosote, preceded by the application of a ten-per-cent. solution of cocaine, giving preference to the oily or alcoholic solutions. (Pure creosote is used when there is extensive tissue necrosis, the injection being made as superficially as possible, one drop at a time, repeated at intervals of five or six days.) He alleges for this method: First, that it relieves dysphagia, dysphonia, and cough in the primary stages; second, that infiltrations and hypertrophies in the larynx disappear in some cases after persistent treatment; third, if pulmonary disease is not very active, early treatment may arrest subsequent ulceration; fourth, single tuberculous ulceration may be healed, if not too deep; fifth, in more active stages the treatment stimulates granulation, arrests ulceration, prevents profuse discharge and unpleasant odor, and relieves laryngeal symptoms. Hubbard has also had good results from creosote injections. In his cases tincture of gentian was given internally at the same time.

Spontaneous healing of tuberculous ulcerations of the larynx is reported by Whistler, Grayson, and Solly, in which sedative and antiseptic solutions alone were used. Heryng has seen fourteen such cases out of three thousand observed.

Tracheal injections of creosote are recommended by Botey. Very large doses are tolerated in this way, and derangement of the stomach avoided. John A. Thompson, in an article read at the recent meeting in this city of the Laryngological, Rhinological, and Otological Society, advocated this method of administering creosote, saying that where tracheal injections were tolerated the antiseptic action of the remedy would be very speedily shown by the subsidence of the cough, change in character of the expectoration, and decline of fever.

The internal administration of creosote has, and, I think, justly, many advocates. Semon and Conway have reported good results from using large doses. Professor Stoerk, than whom there are few for whose opinion I have greater regard, considers the free use of creosote dangerous in cases of laryngeal or pulmonary phthisis. He thinks that the power of nutrition is often lessened by its employment. Personally I regard it as essential in the treatment of tuberculosis in this climate. I have never seen creosote do harm. Some of my patients have taken twenty-five drops three times a day with only beneficial effect. My rule in administering it is to begin with one minim, adding one minim to each dose every day, with directions that if gastric disturbance is produced they shall go back to the dose which was tolerated without discomfort.

Of the many remedies suggested in the treatment of laryngeal phthisis, the curette and lactic acid must be accorded the first place. Next, I should place the phenol preparations advocated by Spengler, of St. Petersburg, Hedderich, Heryng, Zinn, and Ruault. Laryngotomy, laryngo-fissure, and laryngectomy, it is safe to say, should only be resorted to under most exceptional circumstances. Tracheotomy doubtless has its value, as employed by Gleitsmann and Heryng, for without a free supply of good air nothing can be expected in the treatment either of pulmonary or laryngeal phthisis. In my last paper I reported five cases of laryngeal phthisis successfully treated, one of which is alive and well to-day, six years after the last operation. Since then, though many of my patients have been benefited, in but one have I been able to secure complete cicatrization. I am, however, able to offer one suggestion which I think is new in the treatment of these cases. I have found in enzymol a most valuable auxiliary to the curette and lactic acid. It is non-irritating, and possesses in a high degree the quality of digesting necrosed tissue. I applied it recently to a large ulcer upon the ventricular band; in twenty-four hours the detritus with which the ulceration was covered had entirely disappeared, leaving a perfectly clean surface, upon the face of which were two nodular projections, apparently tuberculous deposits which had not yet undergone the process of ulceration. My experience with enzymol is too limited to warrant the expression of a positive opinion as to the extent of its value. It has been used most successfully in tuberculous joints, and I shall not be surprised to find that it limits and prevents ulcerations in the larynx when applied by hypodermic injection to the tuberculous deposits. To my assistant, Dr. A. W. Wells, I am indebted for valuable aid in obtaining abstracts of the papers referred to in this article.

Bibliography.

Heryng. *Therap. Monatshefte*, Berlin, 1893, vii, 61; *Medycyna Warszawa*, xxi; *Klin. Zeit- u. Streitfragen*, Wien, 1894, No. 8, 29–60; *Journal of Laryngology*, London, 1893; *Therap. Monatshefte*, July, 1896; *Journal of Laryngology*, London, 1894; *Gior. d. Ist Nicolai*, Milano, 1894, No. 3, 7–14.

Rethi. *Wien. klin. Wochenschr.*, No. 42.

Castex. *Revue de laryngol. et de rhinol.*, Paris, 1893; *Journal of Laryngology*, London, 1894, p. 87.

Ernest Crapon. *Die Behandlung der Larynxtuberculose durch Laryngofissur*, Marburg, 1894.

Lenox Browne. *Transactions of the Medical Society of Michigan*, Detroit, 1893, xvii, 121.

Krause. *Journal of Laryngology*, London, 1895, p. 572.

Gleitsmann. *Journal of Laryngology*, London, 1895, pp. 600, 675.

Hajek. *Internat. klin. Rundschau*, Wien, 1893, vii, 1385, 1428; *Internat. klin. Rundschau*, 1893, Nos. 37 and 38.

Symonds. *Journal of Laryngology*, London, 1895, p. 355.

Levy. *New York Medical Journal*, July 20, 1895.

Caster. *Sohoff. Inaug. Dissert.*, Wurzburg, 1894; *Journal of Laryngology*, London, 1893, p. 301.

Semon. *Journal of Laryngology*, London, 1895, p. 707; *Lancet*, London, March 11, 1893.

Lambert Lack. *Journal of Laryngology*, London, 1896, 203.

Garel. *Journal of Laryngology*, London, 1893, p. 300.

Srebony. *New York Medical Journal*, 1896, lxiv, 44.

Oresco. *Wien. med. Wochenschr.*, 1893, xliii.

Langmaid. *Boston Medical and Surgical Journal*, 1894, c, 59–61.

Capart. *Revue de laryngol. et de rhinol.*, Paris, 1894, xiv, p. 784.

Cadier. *Revue de laryngol. et de rhinol.*, Paris, 1894, xiv, p. 309.

Shurley. *Transactions of the Pan-American Medical Congress*, Washington, 1893.

Newman. *Journal of Laryngology*, London, 1896, p. 134.

Knight. *Internat. Clinic.*, vol. iv, 4th S.

Spengler, of St. Petersburg. *Lancet*, London, December 14, 1895.

Zinn. *Charité Annalen*, Berlin, 1896, xxi, 204.

Schadewaldt. *Journal of Laryngology*, London, 1895, p. 92.

Thorne. *Therapeutic Gazette*, Detroit, 1893, ix, 754.

Comparad. *Compt. rend. des séances*, 1893, iv, 9th S., p. 13.

Chappell. *Journal of the American Medical Association*, Chicago, November, 1895, xxv, p. 949.

Hubbard. *Journal of Laryngology*, London, 1896, p. 59.

Botey. *Münch. med. Wochenschr.*, 1896, vol. xii, p. 76.

Sendziak, of Warsaw. *Journal of Laryngology*, London, 1894, p. 115.

Conway. *New York Medical Journal*, July 20, 1895.

Whistler. *Journal of Laryngology*, London, 1893, vii, p. 291.

Grayson. *Medical News*, Philadelphia, 1893, lxiii, 520.

Murray. *Transactions of the Pan-American Medical Congress*, 1893, p. 1577.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are Dr. Joachim Voss, professor of anatomy and medical jurisprudence in the University of Christiania, president and founder of the Association of Norwegian Medical Practitioners, and one of the first who performed ovariotomy in Norway, aged eighty-two; Professor Victor Hüter, for many years lecturer on gynæcology in the University of Marburg; Dr. Nikolai Kleinenberg, professor of comparative anatomy in the University of Palermo, aged fifty-seven; and Dr. M. A. Olivet, professor of psychiatry in the University of Geneva, and author of numerous publications on subjects relating to mental diseases, aged seventy-six.—*British Medical Journal.*

AUTOTOXÆMIA.*

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IN the universities of Europe it is the custom for the professor, in opening his course of lectures, to select a special subject for his inaugural address, and I shall adhere to this plan. The question that I desire to discuss with you to-day is one with which you all should be familiar, as it applies to both medicine and surgery. I refer to autotoxæmia, and without any further introduction I shall immediately enter into the consideration of this important question of general pathology.

The symptoms, or rather the pathological conditions, resulting from an autotoxæmic condition of the human organism will in the near future be classed according to the nature of the toxic product or products giving rise to them. At the present time we may certainly affirm the direct relationship existing between the cause and effect—for example, the presence of certain abnormal endogenous substances in the blood which give rise to a series of well-defined clinical manifestations. But in the larger number of cases the pathological agent is a complex one, and its nature, or that of a number of its elements, is still unknown, and consequently a classification under these circumstances is for the present impossible.

In another point of view we shall show that certain phenomena observed are due to a functional suppression of a given organ, while in other instances the pathogenic part played must be attributed to an exaggeration of functional activity.

It would thus appear possible to separate the autotoxæmias into two principal groups, each one of which would correspond to one of the two functional conditions to which we have alluded, but there is a series of sufficiently coordinated symptoms which go to make up a clinical entity and which is a stumbling-block to a classification, at least for the time being. The appearance of these symptoms is not preceded by a destruction of an organ or by any increased functional activity of any given organ, and we consequently find ourselves reduced to dividing the phenomena observed in a purely empirical manner.

We will classify the general phenomena which are the result of an autotoxæmia in one group, although we can not include any one agent in particular which may give rise to them, and in this first group we will study the fever due to autotoxæmia, no matter what may be the origin or nature of the autointoxication.

In a second group we will mention the various diseases which appear as being properly considered as produced by an autotoxæmia, and we will use as a guide that degree of certainty that is probable of each hypothesis. In the first place we must consider the *toxic endogenous substances* that have been so far demonstrated to exist. These substances may be divided into nine groups, as follows:

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* The inaugural lecture to the course of surgical pathology at Tufts College Medical School, delivered October 18, 1897.

First group—the acids:

(*a*) Acetic acid, formic acid, propionic acid, butyric acid.

(*b*) Lactic acid, β-oxybutyric acid (diabetic coma).

(*c*) Oxalic acid (oxaluria).

(*d*) Probably also the amid acids that are similar to glycocoll (amido-acetic acid) and leucine (amido-isobutylacetic acid).

The second group comprises the aromatic substances—the derivatives of phenol, cresol, indol, scatol (intestinal autotoxæmia), tyrosine, and similar bodies (hepatic insufficiency).

The third group is made up of the aromatic substances, the derivatives of phenol, cresol, indol, scatol (intestinal autotoxæmia), and tyrosine and similar bodies (hepatic insufficiency).

The bases of the xanthin series form the fourth group—xanthin, hypoxanthin, heteroxanthin, adenin, guanin (coma from cancerous degeneration), and other similar bodies belonging to the uric-acid group.

In the fifth group we will place the diamines—putrescine (tetramethylenediamine), cadaverine (pentamethylenediamine), and similar bodies found in carcinoma, gangrene, etc.

The sixth group comprises the amines; the most important substance for you to remember in this group being trimethylamine.

In the seventh group we have the alkaloids. These belong to the pyridine and quinoline series. The toxic substances found in the urine during acute or chronic diseases by Bouchard, Luff, Ewald, and others, should probably be included in this group.

The leucomaines form the eighth group. The substances discovered by Gautier are very similar to those found by Brieger, to which the name of ptomaines has been given, as well as toxines and toxalbumins; but here again we find ourselves in presence of poorly defined substances. The molecular composition of the toxalbumins is unknown, and very unfortunately their morbid influence must certainly be very considerable.

In the ninth and last group we will class the toxines elaborated by the *Bacterium coli,* and although, strictly speaking, we are here dealing with exogenous substances, we are nevertheless in presence of a constant inhabitant of the intestine, and which may be considered as a normal element.

The symptoms produced by the quantitative and qualitative changes of the secretions of this most important micro-organism should certainly be placed in the autotoxæmias. Gilbert inoculated animals with sterile bouillon cultures of the *Bacterium coli.* They first presented an increase in the number of respirations, and later a swelling of the abdomen with polyuria and diarrhœa. Later still a progressive paresis was observed, with dilatation of the pupils and a labored respiration, ending in death, with slight convulsions. All these facts are important, because we are here dealing with a toxic substance which becomes very marked when there is a hepatic insufficiency.

Of all the symptoms connected with autotoxæmia fever is certainly the most common, and for the moment we will consider this phenomenon in order to avoid repeating ourselves. In the first place, we must establish which are the organic substances of animal origin that can produce an elevation of the temperature when they are in excess in the organism.

Creatin, when injected or placed on the surface of a serous membrane, causes an elevation of the temperature, which may reach 45° C. Hayem observed quite marked changes in the temperature produced by the transfusion of blood from which all fibrin had been removed, and Liebreicht has also remarked the same phenomenon. Roger demonstrated that normal urine produces first an increase followed by a subnormal temperature, which may remain present for several hours, and Rouquès has shown that the urine voided during the night is very thermogenic. According to Charrin, Ruffer, and Roger, the extract from muscles possesses a distinct thermogenic action, which varies in intensity according to the condition of the subject furnishing the muscles, and which is more pronounced for the watery than for the alcoholic extract.

Lépine has mentioned an autotoxæmia due to kidney trouble, producing a rise in temperature and dyspnœa. The symptoms produced by kidney extract were quite similar to those met with in dogs submitted to an intrarenal pressure of sufficient force to prevent the excretion of urine and yet allowing the salt solution to enter the renal glands. Rouquès has studied the thermogenic action of extracts of various organs. An extract of the lung causes, when injected, a marked elevation of the temperature. The objection might here be raised that the latter experimenter was employing substances which were not absolutely aseptic, and it could be admitted that pyretogenin (Roussy) of microbic origin was here in play.

The liquid extracted from the suprarenal glands by crushing them in a salt-water solution produces a rise in temperature when injected. In a case of Addison's disease this same extract, when hypodermically introduced into the patient, caused a rise in the temperature. Roux and Rouquès produced fever by introducing an alcoholic extract of the normal spleen into the circulation. Bouchard demonstrated that an injection of thyreoid extract causes a rise in temperature of moderate intensity in patients subjected to treatment, while the same liquid, when injected into the venous system of animals, is followed by quite marked fever.

The thermogenic action of the extract of liver is very distinct, but if the animal is fasting its action is not so evident.

Now, what are the thermogenic substances contained in the various organs? According to Binet, they are substances which are taken up by amorphous precipitates, in just the same way as the soluble ferments, but up to the present time they have not been isolated more exactly.

If we now put aside the theoretical considerations, we can consider the various diseases in which fever has as its only factor the action of the foregoing substances on the thermogenic centres of the nervous system, as well as other bodies of similar nature. You all know that fever is a frequent phenomenon occurring in gout, and may certainly be considered as one of the best examples of autotoxæmic fever. In the acute symptoms of this affection the temperature rises to about 39° C. during the first few days, and then slowly reaches 40° or 41° C. on the fifth or sixth day of the attack. It then slowly goes down and reaches the normal between the eleventh and thirteenth day.

This condition is only observed in recent gout, in which the attacks are infrequent and separated by a considerable lapse of time; but little by little, as the disease tends toward chronicity, the rise in temperature becomes confounded with the ordinary evening febrile condition of these patients. You will find, however, that the pulse has no relation to the fever. There is also no relation between the degree of hyperæmia and the number, intensity, and localization of the attacks.

When gout has become chronic it has a tendency to produce a long series of regular oscillations of about 1° C., although you may not be able to note some few slight exacerbations, which are produced by subacute attacks. Now, this fever is due to the presence in the blood of an increased quantity of uric acid, and you are all familiar with the richness of the urine in this chemical compound. You also are aware of Garrod's classical experiment, which is to place a bit of thread in the serous liquid obtained from a blister placed at a certain distance from a joint, the seat of gouty manifestations, and soon the uric acid contained in the fluid will crystallize on the thread.

An intravenous injection of uric acid or urate of sodium will cause as marked hyperthermy in the rabbit. Here, consequently, autotoxæmia is distinctly demonstrated, and is still more marked by the condition of *malaise* which the patient presents during the incubation period of this attack, when the blood already contains uric acid, and which is in striking contrast with the feeling of well-being which follows the outburst of the joint symptoms, at which time the blood has given up the toxic matter which it contained up to that time.

In spite of the great difficulty in certain circumstances to clinically separate chlorosis from the beginning of tuberculosis, we are obliged to admit that there is an elevation of the central temperature in subjects having the former affection. This fever, which at times follows the normal course, while at others takes on an inverse type, is most usually accompanied by an increase in the pulse rate, but without any changes in the urine. This fever, which can hardly be dependent on an infectious origin, and which moreover can not be explained by the theory of fæcal infection put forth by Clarke and Duclos, is, according to Jaccoud, the result of a decrease of oxygen in the blood. The foci which govern the temperature and are seated in the spinal cord, as has been demonstrated by my regretted master Schiff, Bernard, and others in the bulb, protuberance, and the cerebral peduncles, are excited by the anoxæmia, according to Rosenthal, just in the same manner as the respiratory centres are.

It is to be remarked, however, that hyperoxidation of the blood by inhalations of oxygen does not lower the temperature, and that carbonic-acid poisoning, which is a true experimental anoxæmia, is usually accompanied by a lowering of the temperature. Although it is certain that Jaccoud's hypothesis can not be accepted as thoroughly satisfactory, it is none the less true that the anæmia of chlorosis brings about a general sluggishness of the nutrition. You all know that under the influence of nutritive disturbances the cells of the organism secrete substances susceptible of exciting the thermic centres in the cerebrospinal system, and it is probably the same with the fever of chlorosis as with the fever of gout.

Exophthalmic goître is also accompanied by an elevation of the temperature, and Teissier insists particularly on the value of the febrile symptoms. The many writers who have considered this question admit the existence of a fever which occurs suddenly, sometimes on account of an emotion—anger or grief—but usually its cause passes by unnoticed. This fever is irregular and capricious, occurring rather by paroxysms, while the syndrome is rarely complete. Now we know that Graves's disease may be considered as an affection probably due to an intoxication of the nervous system from an abnormal secretion of the thyreoid gland, and we shall see that treatment which directly acts on the size of the gland, or which weakens its functional activity, lowers the temperature and at the same time diminishes the intensity of the other symptoms.

Some writers have wished to make the muscular trembling which is present in Basedow's disease the cause of the fever in exophthalmic goître, but it appears to me that the theory of autotoxæmia has a strong enough basis, and perfectly well explains this fever without trying to put forward any other pathogenesis.

The older writers considered overwork as a very prominent ætiological factor in many diseases, and at the present time the writings of Peter, Kein, and others have demonstrated the considerable importance of this condition in the genesis of certain febrile symptoms. Muscular exertion produces the formation of a number of waste products, such as lactic and carbonic acids, creatin, creatinin, uric acid, and urea, which are those the best known. These waste products are very rapidly eliminated from the economy when in a healthy condition, but if the emunctories become altered, or if an excessive work produces an exaggerated quantity of these products, we are then dealing with those accidents which have been described by Peter under the term of "autotyphization."

It has been demonstrated by Bouchard that the urine of an overworked subject will kill at the dose of twelve cubic centimetres to the kilogramme of the weight of the animal injected, while with the urine taken from a healthy person it requires forty-five cubic centimetres to obtain the same result. The symptoms present in this type of autotoxæmia are very like those occurring in typhoid fever. The subject has little chills, frontal headache, and sometimes an intense rhachalgia. The facies looks like that met with in typhoid patients, and the anorexia, diarrhœa, and strong-smelling fæces are also present. The spleen is increased in size, epistaxis is not infrequent, and the rose spots may sometimes be found on the abdomen. Fever ranges high, and rapidly reaches 39° to 40° C., but decreases within at least five or six days. The fall takes place in lysis and is accompanied by a large excretion of urea.

The exaggeration of physical exercise, especially since the introduction of the bicycle, has brought to observation the condition known as "overworked heart." The symptoms presented in these cases are fever, ranging perhaps as high as 39° to 40° C., torpor, adynamia, diarrhœa, and a true typhoid condition. This process, which without doubt is nothing more than a toxæmia, leads us to the consideration of a type of fever frequently met with in children.

This is a pathological process, characterized by a fever presenting the picture of typhoid, whose duration and intensity are quite variable and during which the pain seated in the zone of proliferation of the long bones may lead the physician to fear the occurrence of an osteomyelitis, but which gradually terminates in recovery, while at the same time there is a marked increase in the height of the child.

It may be admitted that the exaggerated work which has taken place in the epiphyses produces the formation of a toxic product, and this substance gives rise to the symptoms described.

It is a well-known fact that uræmia is accompanied by a fall in temperature, but in certain cases we find a high temperature, which can only be accounted for by an acute renal inflammation. The convulsive movements, such as are observed in eclampsia, can not be considered as a factor in the production of the fever, because the latter occurs in uræmic coma as well as in the delirium of uræmia. The temperature reaches a high point, and in a case reported by Bouveret it attained 43° C.

The high temperature, that a post-mortem examination has excluded as being due to visceral complications, may be caused by cerebral œdema, which has been observed on several occasions. By producing an experimental œdema of the brain in the dog, Munch, Bidder, and Otto found that there was quite a rise of temperature; but at the necropsy of Bouveret's case, which had presented a considerable thermic elevation, and the absence of a rise in temperature in cases in which there was œdema, are facts that certainly ruin this theory, while the probability of the fever being due to a toxæmia is fully upheld by the fact that Bouchard has isolated a hyperthermizing substance from the urine.

It is, perchance, to the retention of this same substance within the organism that we can attribute the fever met with in hysteria. It is quite true that as a general neurosis it may present an elevation of or an abnormally low temperature, just as it has an exaggeration or abolition of the sensibility.

But the autotoxæmia can not be denied, and becomes most evident in patients with anorexia, whose urine finally contains only a very small amount of solid matter and can in no manner be compared to that found in normal subjects in a state of inanition.

In cancer it has been remarked, and it is one of the important elements of diagnosis of malignant disease of the stomach, that there is a fever which may reach 38° C., or even 39° C. The toxic matter, according to Lüke and Verneuil, is due to the great amount of degenerated material coming from the cellular elements of the neoplasm. Estländer considers cancer juice as the cause of the autotoxæmia, while for others it is caused by a profound change in all the cells of a cancerous subject.

But no matter what may be the correct hypothesis, we will admit that the phenomenon of fever, which is present during the evolution of a cancerous neoplasm before suppuration has taken place, is due to an autotoxæmia, and I here show you the chart of a patient with an epithelioma of the cervix, which I think is at least convincing. You will notice the drop to normal immediately following the removal of the neoplasm.

Of all the organs that a general autotoxæmia most severely attacks, it is certainly the renal gland that undergoes the most marked and early lesions. Elimination of the urine is thus rapidly disturbed, and new pathological phenomena appear, resulting from the renal insufficiency.

These secondary accidents following nephritis might be produced not only by an autotoxæmia but by toxic substances of inorganic or infectious nature, which go off from the economy by the kidney; but these we will not consider. We should only remember among the causes capable of producing a nephritis, the general disturbances of the nutrition, such as gout, chlorosis, diabetes, the various cachexiæ, overwork, etc., whose ætiological value we have already mentioned in general, and the diseases involving certain secretory or excretory organs, such as the liver, skin, and intestine.

The nephritis of gout is caused by the passage of uric acid and the urates through the tubes of the kidney. Elstein produced an accumulation of uric acid in the rooster, which caused foci of necrosis to occur in a number of organs, similar to those found in the gouty kidney. By intravenous injections of urate of sodium, Heidenhain found enormous quantities of the salt in the tubules of the kidney, and Burmeister poisoned rabbits with urate of ammonium and found at the necropsy an acute nephritis, whose most important character was a coagulation necrosis and fatty degeneration of the epithelium. The urates consequently act sometimes as a toxic matter, and the lesions produced are seated in the epithelium of the convoluted tubes, which is more special to the neutral urates; while at others, on the contrary, the lesion is a mechanical one, due to the precipitation of the acid urates in the medullary substance of the organ. It must, however, be said that infrequently both toxic and mechanical lesions are met with in the same organ.

In cases of diabetes these lesions are quite as frequent as in gouty subjects. First, we have a glycogenic infiltration of the epithelial lining of the tubes, and this lesion is, according to Frerichs, a constant one in diabetes, but it is not a degeneration, and it probably does not produce renal insufficiency. Secondly, we have a necrosis, especially of the epithelium of the convoluted tubules. This lesion is in all probability caused directly by the elimination of acetone or similar acids which by their accumulation in the blood produce coma. These bodies are the result of an incomplete combustion of the glucose, or of an exaggerated destruction of the albuminoids of the economy, and the lesion they produce is consequently one of autotoxæmia. It would also appear that when patients are placed on an exclusive animal diet the increase of extractive matter produces an irritation of the kidney, and Hirtz has been able to value the quantity of these extractive substances eliminated by a patient in twenty-four hours at ninety-nine grammes.

In chlorosis, which is so frequently associated with nephritis, as has been pointed out by Dieulafoy, the blood serum receives a particular toxicity due to an exaggerated destruction of the albuminoids, combined with a diminution of oxidation. The urine contains an excess of uric and lactic acids and the sulpho-conjugate acids, and thus has an excessive toxicity, as has been proved by the experiments of Feltz, Senator, and others. The nephritis mentioned by Chatin is interstitial, and the organ is sometimes decidedly atrophic. In other forms of anæmia, such as pernicious, or leucæmia, a granulo-fatty degeneration is sometimes found in the former, while in the latter an embryonic infiltration is observed completely filling up the renal tubes. But if we can admit of an autotoxæmia in chlorosis, it is more difficult to affirm the value of this hypothesis in the above-mentioned diseases. However, Albu was able to extract a special alkaloid from the urine of patients suffering from pernicious anæmia.

(To be concluded.)

PRIMARY LUPUS OF THE LARYNX.*

By EMIL MAYER, M. D.

The following cases are deemed worthy of presentation, because of the difficulties in reaching a diagnosis in this affection, its very rare occurrence, and also because in one of the cases I am enabled, after sixteen years, to corroborate the original diagnosis:

Case I.—Louis F., aged thirty-one years, came under my observation on July 18, 1896. He gave the following history: He was born in Russia, and is sixteen years in the United States. His father died at the age of forty of a heart affection. His mother died at the age of fifty of some disease the nature of which is absolutely unknown to him. He has a brother, aged forty-one, and two sisters, aged thirty-eight and twenty-five respectively, all in good health. One sister died at the age of thirty-one on the second day after confinement of a puerperal complication.

He has been married five years, and is the father of two children who are in good health. A third child died at the age of eighteen weeks of cholera infantum. His wife had no miscarriages, and has been in good physical health.

Except an attack of malarial fever seven years ago, he was entirely well up to one year ago. At that time, while sitting quietly, he gave a short cough and brought up a wineglassful of blood. There were no further signs of hæmorrhage until July 10th of this year. It has always been his custom to get out of bed every night for years, smoke a cigar, and then retire. On the night in question he arose and began to smoke, when a slight hacking cough occurred and he brought up a half cupful of blood.

July 11th.—Another attack of hæmorrhage at 6 P. M.

Daily attacks until the 18th, when he had two hæmorrhages—one at 2 P. M. and one at 6 P. M.—each time bringing up nearly a cupful of blood.

On the 20th, another hæmorrhage; 21st, none; 22d, one; 23d, four attacks during the day. These were the last hæmorrhages he had.

From the 10th to the 17th he had been under the care of his family physician. There was no cough, no pain in deglutition, no elevation of temperature, no hoarseness. His physician, finding no evidences of pulmonary disease, referred him to me for examination.

Patient is undersized and slightly built; looks very pale and presents no further symptoms. His anterior nares are free from any disease; mouth and pharynx normal. There is a large ulcer in the centre of the epiglottis extending over the entire laryngeal face. The edges of the ulcer are granular, covered with a grayish-white deposit, many small nodules existing on the free edge, the whole presenting a gnawed appearance. The width of the ulcer at the upper border is about eight millimetres. In the deepest portion of the ulcerated surface there is an eroded spot presenting the appearance of the open mouth of a vessel. There is a tumefaction of the mucous membrane on the upper border of the epiglottis on each side of the ulcer. The arytænoids as well as the interior of the larynx are normal. Careful examination and investigation show no evidence of syphilis. Sputum examined shows no tubercle bacilli. There is a slight consolidation at the apex of the right lung.

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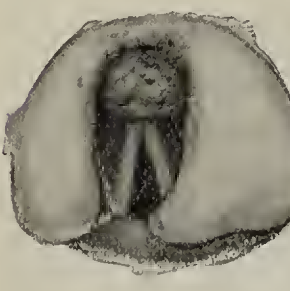
* Read before the American Laryngological Association at its nineteenth annual congress.

Diagnosis.—Primary lupus.

Applications of lactic acid, fifty per cent., alternating with twenty-five-per cent. menthol in olive oil, were made, and creosote was given internally. The hæmorrhage ceased, as noted, and never returned. His weight increased and he resumed his daily vocation, passing from observation on August 5, 1896.

April 16, 1897.—Patient present at my urgent request. States that he has been entirely well these eight months past, has gained steadily in weight, and, excepting a slight cough of a few days' standing, has no complaints. His voice is clear and strong, appetite good; has no elevation of temperature and no pain or difficulty in deglutition.

Examination.—The epiglottis is thickened in every diameter; a piece is excavated out of its central portion extending to within an eighth of an inch of its free border. The portion of the epiglottis that is visible in this excavation is nodulated in appearance, a fresh nodule being visible on the site of the old cicatrix. The mucous membrane of the epiglottis adjacent to the ulcer is puffy and very œdematous. These œdematous folds form pouches hanging over the arytænoids and tend to obstruct the view of the larynx. No abnormity can be detected in the larynx.



Examination of the Lungs.—Besides a slight bronchial catarrh and the consolidation at the apex of the right lung, which is *in statu quo*, there is no other pulmonary affection.

Case II.—The second case is one of primary lupus of the larynx and pharynx. It has already been reported and presented to this association in the year 1881 by Dr. Morris J. Asch. The history then given was as follows: "Nora H., aged eighteen years, came to me in February, 1879, complaining of sore throat and hoarseness. For four years she had suffered with it during the winters. During the past winter she had been much worse, deglutition becoming difficult, fluids passing out through her nose on her attempting to swallow them. There was a pricking sensation in the parts.

Examination.—The uvula was destroyed. The free border of the velum and the posterior pillars were ulcerated. The anterior pillar of the right side, the right tonsil, and the roof of the mouth were thickened and covered with small fleshy tubercles and nodular masses. The anterior pillar of the left side was thickened, while the whole diseased surface presented a deeper tint than normal. On the posterior wall of the pharynx was a large radiated cicatrix of the origin of which the patient could give no history. Patient is dysphonic; hearing is diminished.

The epiglottis is thickened, with ulceration on the left side and with its cushion much infiltrated.

The aryepiglottic folds and the ventricular bands are covered with small tubercles and thickened so as to prevent a view of the vocal cords. There is also a large papillated mass at the base of the tongue on the right side.

Under cod-liver oil, iron, and applications of nitrate of silver, patient improved until October of that year, when she complained of a choking sensation in damp weather. There was pain in the throat. The growth had increased, and there was an appearance of ulceration on the right side of the larynx. There was a white spot on the right posterior pillar, and the granulations which had almost disappeared from the roof of the mouth had returned.

Under applications of perchloride of iron the patient improved steadily, and in May, 1881, there were no further indications of active disease."

By the courtesy of Dr. Asch she has been under my observation ever since. Two years after the case was described it was found that the epiglottis was sunken and flattened; this was believed to be due to subsequent cicatrization.

About five years ago a new nodule appeared, extending from the centre of her distorted epiglottis and directly upon a cicatrized spot. This remains and protrudes like a spur.

Before this an attack of pneumonia, and later an attack of pleurisy occurred, from which recovery was complete. No other throat affections save those noted have presented in all these years. Her life history has been that she had been twice married. Her first husband died of endocarditis. She has been pregnant twelve times and aborted seven. These latter were due to causes referable to the uterus. The children that came to term were normal in every respect. Her skin and body were carefully examined from time to time. Her teeth are singularly perfect, nor has there appeared any diseased state of the eyes, ears, or scalp. There is a distinct lupous eruption on the right temple at times, being very red and again very pale. No mercurials or iodides have ever been given or required.

On December 31, 1896, she gave birth, under the care of Dr. David Franklin, to a full-termed child, stillborn, due to prolapse of the funis. Two months after she began to cough and fail rapidly. Tubercle bacilli were found in large numbers, and examination revealed a cavity at the right apex of large area and one at the left apex of smaller area.

Laryngoscopic examination shows velum gone; the posterior pharyngeal wall is the seat of many radiating cicatricial bands, but nowhere any adhesions to the adjacent parts.

Only a stub of the epiglottis is left, a knotty condition presents, and the spur mentioned is seen. The larynx is otherwise normal. All the parts are intensely anæmic. Under creosote and rest she improved sufficiently to go to Sullivan County, New York, on April 15, 1897.

While most writers credit Türck with having first mentioned lupus of the larynx in 1864, Langie says that it was known to exist in 1829 by Travers, who recognized it as existing in the mouth and larynx.

It is not so infrequent when lesions of the skin exist, and credit is given to Lefferts for originally suggesting a laryngoscopic examination in all cases where lupus presents anywhere. As a result of this suggestion many cases of secondary lupus have been discovered.

Regarding primary lupus, Lefferts stated before this association in 1881, and is quoted by Lenox Browne as saying, that he would not accept the diagnosis of lupus of the larynx or pharynx unless accompanied by lupus of the face. Browne reports the case of Orwin's which would have been set down as syphilis, but lupus of the nose occurred six years after.

Mackenzie says: When the laryngeal malady constitutes the only local manifestation of the disease, a careful investigation of the history and general condition of the patient must be made before arriving at a conclusion.

Rubenstein has collected fourteen cases of primary lupus, including one of his own, up to 1895. These cases are reported by von Ziemssen, Haslund, Obertuschen, Orwin, Martin, Garre, Langie, Garel, Moritz, Simonin, Isambert, von Breda, and Beausoliel.

Langie says: "If secondary lupus is rare, primary lupus belongs to the rarest of diseases."

Hunt says: "Lupus may originate by a primary deposit in the mucous membrane without any external disease whatever. This is now established beyond all doubt."

Primary lupus occurs in the young, usually about the age of puberty, more often in the female than in the male, and may have as predisposing causes poverty, bad hygienic conditions, and that tendency that has been termed scrofulous.

Kaposi and Vidal doubt the tubercular nature of this affection. Besnier and Doyon, the French translators of Kaposi, say: "The tuberculous nature of lupus, which the author continually doubts, is to-day so fully demonstrated that it is no longer necessary to renew a debate on the subject."

So Rubenstein states: "Tubercle and lupus are identical ætiologically."

Kafeman begins the subject in a very recent brochure, 1897, thus: "Before we consider the question of lupus of the upper air-passages we must lay stress on the statement that it is due solely to the presence of the tubercle bacillus, which was first found by Demme, and after him by many others.

"We can not answer the question why the two diseases should present such different characteristics, although due to the same cause. We can only suggest that it is due to important differences in the forms of life of that bacillus. The different forms are not accidental, but they are necessarily consequent upon the unknown biological characteristics of the bacillus."

Langie says: "To-day we can accept lupus as a form of tuberculosis, for we can show at times small numbers of tubercle bacilli, and these small numbers are accepted as a characteristic feature of lupus." He quotes Marty's definition: "Lupus of the larynx is a form of tubercle of the larynx with few bacilli."

Many sections must be made before the bacilli can be found, Koch finding them after twenty-seven sections had been made and once in the forty-eighth section. The persistent nature of the search that is requisite is the reason why it has not been found by some.

Inoculations prove the question. Eighteen white rabbits so inoculated in the eye became tubercular.

Neisser says: "Lupus is always tuberculosis of the skin, but tuberculosis of the skin has other forms than that of lupus. This same may be applied to the larynx, for lupus of the larynx is always tuberculosis of the larynx, but tuberculosis of the larynx has other forms than lupus."

Lupus of the larynx attacks the epiglottis by preference. The pathological changes noted (Breda) are: "The epiglottis is thickened and irregular at its free border, with slightly raised pale or grayish-red eminences. These we may observe to become white at their apices, a slough forming, which, on separating, leaves a small ulcer with sloping edges and grayish-yellow base, but without any surrounding hyperæmia or infiltration of its margin. These ulcers are slow of healing, and as one cicatrizes another nodule breaks down or is absorbed without ulcerating. In this way a worm-eaten appearance is given to the edge of the epiglottis, which is very characteristic of the disease. As the process goes on, the epiglottis becomes paler, till it comes to have a dead-white color and to the probe is stiff, fibrous, and resistant. Stenosis of the larynx only rarely results from lupus and may be due to blocking of the larynx by lupoid tissue, to fixation of the vocal cords, or contractions resulting from cicatrization. It is remarkable how seldom tracheotomy is required in lupus." Brondgeest has reached the same conclusions in a recent article, having observed the progress of a case of secondary lupus of the larynx *ab initio*. Chiari and Riehl lay particular stress on the statement that the nodules of the mucous membrane are the primary appearance and the infiltration of the mucous membrane second, and not *vice versa*.

Regarding its analogy to affections of the skin, Rubenstein says: "The analogy may not be denied, and we find it in lupus exfoliativus and lupus exulcerans. The primary papillary excrescences, which gradually exfoliate and become diminutive, represent the exfoliative form, while the larger infiltrations with ulcerations and cicatrices resemble the exulcerative form."

"The early forms of lupus are easy to diagnosticate," says Rubenstein, "the later ones more difficult, because in the latter the hypertrophy, ulceration, and cicatrization resemble other diseased states."

Primary lupus produces no symptoms for a long time; often occasions no inconvenience, no fever; only after a time, and frequently after a long time, the voice becomes husky, and sometimes dyspnœa may occur, and these bring the patients under observation. Hence Marty truthfully said that lupus of the larynx must often be divined.

The glands may or may not be involved. Clinically speaking, the primary disease resembles the secondary in appearance. There are four processes to this affection: The mucous membrane is pale, it is œdematous, there is ulceration, and cicatrices form. These may all be present at the same time.

The course of the disease is chronic, without fever; a cure may be spontaneous, and often the disease reappears in the scar. The course of the disease may be rapid. Death ensues from complications, rarely from œdema of the glottis.

Lupus of the larynx must be differentiated from tuberculosis, syphilis, carcinoma, and leprosy.

Both Lefferts and Garre found the greatest resemblance between lupus and tuberculosis, while Chiari and Riehl, Rubenstein, Kafeman, and others find the greatest resemblance between syphilis and lupus, more especially in the nodular syphilide. The differential diagnosis between tuberculosis and lupus is here presented.

	In tuberculosis (clinically).	In lupus (clinically).
Voice	Husky.	Not affected.
Pain	Present, often severe.	None.
Cough	Always.	None.
Expectoration	Profuse.	None.
Bacilli	In quantities.	Very few.

	In tuberculosis (laryngoscopically).	In lupus (laryngoscopically).
Hyperæmia	Intense.	Slight.
Œdema	Great and soft.	Present.
Ulcers	Enlarge rapidly. Not sharply defined. Never cicatrize.	Enlarge slowly. Sharply defined. Cicatrize.

In syphilis the localization may be the same and there may be no pain, although it is present in most instances. The ulcers are deeper, rounded, and have raised edges; there are cicatrices and often adhesions, the latter not occurring in lupus. The course is more rapid; the disease may be found in some other part of the body or the history elucidate the fact.

Lupus does not attack the osseous tissue as does syphilis, and finally the treatment may help to differentiate, lupus being apt to become worse under mercury and the iodides.

Carcinoma, either epithelial or medullary, is characterized by exuberant growth, is usually one-sided, and there is great pain of a radiating character. There are often hæmorrhage and dysphagia. Cachexia is not so prominent in carcinoma of the larynx. Age is of value in the differentiation.

Lepra does not occur spontaneously in this country.

Inoculation tests may become necessary to differentiate.

Lupus may have as complications pulmonary tuberculosis, perichondritis, œdema glottidis, catarrh of the mucous membrane of the larynx, and tubercular meningitis.

The prognosis is good so far as temporary recovery is concerned, and because surgical procedures may be instituted for the extirpation of the diseased mass resulting in a cessation of activity or a complete cure. It must always be borne in mind that the patient is threatened with pulmonary or miliary tuberculosis.

Treatment.—Local applications of lactic acid, nitrate of silver, chloride of zinc, iodine, menthol, and the galvano-cautery. Creosote, cod-liver oil, and iodine internally. Surgical procedures have been successful. Langie's patient was operated upon, the entire larynx being removed, before the diagnosis of lupus was made. He questions whether his patient profited by this complete extirpation, in that the recurrence is avoided, and advises median incision, extirpation of the diseased parts, and galvano-cautery.

Garre's patient was operated upon. After tracheotomy and the introduction of a Trendelenburg cannula, subhyoid pharyngotomy was performed. The epiglottis was extirpated and the diseased aryepiglottic folds removed with the Wrisberg's cartilages. The patient learned to swallow food well, and was discharged cured.

The most important question in the cases here presented is that of diagnosis.

In the first case here reported the entire absence of a single symptom of throat affection and hence its accidental discovery; the clinical picture of a gnawed or worm-eaten epiglottis, with nodules in the ulcer; the absence of tubercle bacilli in large numbers without fever or cough—all of which would assuredly have been present in tuberculosis—and finally the absence of every single evidence of syphilis, led to the diagnosis of primary lupus.

This conclusion has been borne out by the subsequent cicatrization, by the formation of a nodule in the cicatrix, and by the cessation of all activity of the destructive process.

The second case has been extensively quoted. It is mentioned in Lenox Browne's *Diseases of the Nose and Throat.* Garre speaks of it, as do several other writers.

At the time of its original presentation to this association the diagnosis was doubted by Lefferts, who declared it to be due to syphilis.

Careful observation for sixteen years fails to show any evidence of syphilis in herself or her progeny. She has been absolutely free from any affection of bone, skin, eyes, or scalp, presenting no manifestations whatever of syphilis.

It will be remembered that in spite of the fact that extensive cicatricial bands are present on the posterior pharyngeal wall, showing that an active ulcerative process once existed, there are no bands of adhesions reaching over to and involving the adjacent parts. Had this condition been syphilitic there would have been more or less complete adhesion resulting between the soft palate and the posterior pharyngeal wall.

The appearance of a large nodule directly on the site of the old cicatrix absolutely excludes syphilis. With the development of tuberculosis and the late eruption on the face, it seems, further, that the original diagnosis of lupus has been amply verified.

From the observation of these cases and a *résumé* of the very exhaustive literature on this subject we may conclude:

1. That primary lupus of the larynx does exist.
2. That it is a painless affection and may go on for years unnoticed.
3. That tubercle bacilli are present in small numbers, although difficult to find.
4. That its similarity to syphilis in appearance is greater than to that of tuberculosis.
5. That the absence of adhesive bands is characteristic of lupus, while they are always present in late syphilis.
6. That the prognosis as to life is reasonably good.

NOTE.—There has been no further development of the laryngeal disease in Case I, and the patient has remained free from any symptoms of disease for an entire year. In October, 1897, a cough supervened, and an examination revealed consolidation at both apices; tubercle bacilli in abundance were found. This occurrence amply verifies the original diagnosis of primary lupus.

CASE II.—This patient died of tuberculosis in October, 1897.

Bibliography.

1. Lefferts. *American Journal of the Medical Sciences*, Philadelphia, 1878.
2. Asch. *Transactions of the American Laryngological Association*, 1881, p. 16.
3. Bowen. *Transactions of the Rhode Island Medical Society*, 1882, p. 487.
4. Chiari. *Vierteljahresschrift für Derm.*, Wien, 1882, p. 470.
5. Haslund. *Vierteljahresschrift für Derm. und Syph.*, 1883, p. 471.
6. Obertuschen. *Centralblatt für klin. Med.*, 1883, p. 609.
7. Shields. *Transactions of the Medical Society of Virginia*, 1885, p. 230.
8. Orwin. *British Medical Journal*, 1887, p. 16.
9. Martin. *Progrès médical*, 1889, September 7th.
10. Garre. *Münchener med. Wochenschrift*, 1889, p. 911.
11. Langie. *Przegla Lekarski*, Krakow, 1890, p. 113.
12. Hunt. *Journal of Laryngology*, London, September, 1889.
13. Smith. *Dublin Journal of Medical Science*, September, 1890.
14. Marty. *Congrès international de derm. et de syph.*, 1890, p. 760.
15. Burger. *Annales des maladies de l'oreille, du lar.*, xxxi, p. 63.
16. Moritz. *British Medical Journal*, 1892.
17. Brondgeest. *Cong. für innere Med.*, Wiesbaden, 1895, p. 547.
18. Von Ziemssen. *Spezielle Path. und Therapie*, iv, p. 368.
19. Rubenstein. *Berliner Klinik*, 1896, x, 91, p. 1.
20. Kafeman. *Die Tuberkulose in ihre Beziehungen zu den oberen Luftwegen sowie ihre und des Lupus oertliche Erscheinungen*, Halle, 1897.
21. Kaposi. *Pathologie et traitement des maladies de la peau.* Traduction par MM. Ernest Besnier et Adrien Doyon.
22. Lenox Browne. *Diseases of the Nose and Throat.*
23. Mackenzie. *Diseases of the Nose and Throat.*
24. Garre. *Beiträge z. klin. Chirurgie*, Tubingen, 1890, p. 210.
25. Schley. *American Journal of Ophthalmology, Otology, and Laryngology*, New York, 1889, p. 212.

Therapeutical Notes.

A Wash for Itching of the Scrotum.—The *Revue médicale* for November 24th gives the following as Leistikow's formula:

℞ Corrosive sublimate.....	from $4\frac{1}{2}$ to $7\frac{1}{2}$ grains;
Alcohol........................	375 "
Chloroform	5 drops;
Distilled chamomile water........	375 grains;
Cherry-laurel water..............	750 "

M.

Difluordiphenyl as a Vulnerary.—P. Thimm, of Leipsic (*Dermatologische Zeitschrift*, iv, 15; *Therapeutische Wochenschrift*), November 28, 1897, gives the formula of this white, crystalline powder as C_6H_4Fl—C_6H_4Fl, and describes it as insoluble in water, but soluble readily in alcohol, ether, chloroform, or the fixed oils. It is used in a powder made by mixing it with nine times its weight of talc and also in the form of a ten-per-cent. ointment. Bacteriological experiments show that it has no antibacterial properties, and its efficiency as a vulnerary is ascribed to some product set free on contact with the fluids of a wound. Fifteen venereal ulcers were treated with it, and they healed with remarkable rapidity. It is to be noted, however, that they had all been previously swabbed with strong carbolic acid.

Kryofine in the Treatment of Influenza.—Bresler (*Therapeutische Monatshefte*, October, 1897; *British Medical Journal*, November 27, 1897) describes kryofine as a paraphenetidine compound of methylglycolic acid, very similar in composition to phenacetine, a tasteless and odorless crystalline powder almost insoluble in water. He has used it as an antipyretic in sixteen cases of influenza, and has found that it prevents a rise of temperature instead of reducing a temperature already elevated. Seven grains and a half may be given daily. Twice this quantity caused cyanosis of moderate degree in a weakly, neurotic woman, but no subjective symptoms.

Lithium Sulphichthyolate in the Treatment of Gout.—The *Centralblatt für die gesammte Therapie* attributes this formula to Bertini:

℞ Lithium sulphichthyolate............	1 part;
Vaseline..........................	2 parts.

M. This ointment is to be rubbed into the painful limb.

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LARYNGEAL INTUBATION AND THE ACT OF VOMITING.

DR. CHARLES LYMAN GREENE, of St. Paul, clinical professor of medicine and physical diagnosis in the University of Minnesota, entertains the opinion that abolition of the power to hold the breath puts an end for the time being to the possibility of "effective" vomiting. By that he means that, although efforts at vomiting may be made, nothing is ejected from the stomach. It was in 1895 that he broached his theory, and at the recent Montreal meeting of the British Medical Association (*British Medical Journal*, October 16, 1897) he presented a most interesting paper in which he offered anew his proposition to treat desperate cases of continued vomiting by means of intubation with a tube specially fashioned for the purpose, for he thinks that the ordinary O'Dwyer tube does not quite answer the purpose.

The all-important element in the mechanism of the act of vomiting, says Dr. Greene, is sudden forced inspiration followed by closure of the glottis, which insures a fixed state of the diaphragm and thus provides a rigid surface against which the stomach and its contents are forced by the abdominal muscles, so that the coincident action of these opposing forces presses out the contents of the stomach. A certain amount of regurgitation, he admits, might be accomplished in the case of an overfull stomach, especially in infants, by muscular contraction of the stomach alone or with the assistance of the action of the abdominal muscles, and it might be possible for the small, vigorous, and generally overfull stomach of the child to reject its contents without the establishment of a fixed state of the diaphragm; but this, he adds, is improbable and, so far as his proposition is concerned, unimportant, inasmuch as the cases to which the proposed treatment would be applicable occur in adults, and vomiting in adults, to be really "effective," seems to require descent and fixation of the diaphragm such as can be effected only by the deep inspiration reinforced by the air column maintained by a closed glottis.

Dr. Greene has not had an opportunity to test the efficiency of intubation in actual cases of persistent vomiting, for since he conceived the idea he has had none that failed to yield to less heroic measures. He quotes, however, from Dr. M. Russell Wilcox, the demonstrator of physiology in the medical department of the university, an account of some experiments on dogs. Intubation of the animal's larynx was practised in one instance, and then injections of a tenth of a grain of apomorphine were given until the whole amount injected was a grain and a tenth. In addition, the dog's pharynx was tickled with a tuft of feathers. It went through with the movements of vomiting, but with each spasm the air could be distinctly heard rushing through the tube, and nothing came from the stomach. After twenty-five minutes the tube was withdrawn, and the dog vomited violently. Another dog, subjected to a similar experiment, but with only a tenth of a grain of apomorphine, made efforts to vomit, but did not succeed until he had dislodged the tube, when he vomited normally. Dr. Wilcox adds that he has never seen a dog accomplish the act of vomiting after tracheotomy had been performed.

Dr. Greene would like to obtain the experience of the profession as to the occurrence of vomiting after intubation or tracheotomy. He asks if patients intubated with the ordinary tube vomit freely and effectively. If they do, he says, that tube is ineffective for his purpose, and mere separation of the glottic bands is not enough to inhibit the act of vomiting. If, however, tracheotomized patients never vomit effectively and can not be made to do so when the tube in the trachea is of proper calibre and free from obstruction, he considers his main proposition established, and says that this procedure or the use of a modified intubation tube would certainly be justified in cases of vomiting in which other treatment had failed and death by starvation and exhaustion was threatened.

A clinical observation that tends powerfully to uphold Dr. Greene's contention has been communicated to him by Dr. J. E. Schadle. Dr. Schadle was treating a case of chronic laryngeal stenosis by means of forcible dilatation. The patient was wearing a tracheotomy tube of the calibre of No. 21 of the French catheter scale. During the passage of the large œsophageal bougie employed the man made most violent efforts to vomit, but, whether the stomach was full or empty, he could not expel any part of its contents.

THE TEXAS SCREW-WORM.

OF late there have been several instances reported of the ravages wrought by this creature in the human subject, chiefly in the nasal passages and the communicating cavities. The December number of the *Laryngo-*

scope contains two articles on the subject, one by Dr. M. A. Goldstein, of St. Louis, and the other by Dr. Hal Foster, of Kansas City. There is also an article entitled Report of a Case of Worms in the Nostrils, or Peenash, by Dr. J. S. Steele, of Monterey, Mexico, but that gentleman does not state whether or not the maggot he had to deal with was the so-called screw-worm. It is a pity that the name of the great State of Texas should figure in the popular designation of this pest, for Dr. Goldstein quotes Dr. Williston, of Yale University, as saying that it "occurs everywhere from Canada to Patagonia," and Dr. Foster speaks of cases of its invasion of the nose in persons who came from India.

The screw-worm, according to Dr. Goldstein, is the larva of *Compsomyia* (*Lucilia*) *macellaria*. When fully developed, it is three quarters of an inch long and about an eighth of an inch thick. It is made up of segments, and between the segments there are rings of bristles. These give the thing some resemblance to a screw; hence its name. Dr. Goldstein gives cuts showing the ovum (greatly magnified), a bunch of ova, the larva, the pupa, a broken pupa-case, and the fully developed fly, a creature measuring more than two inches "from tip to tip." These cuts are taken from the *Bulletin of the Texas Agriculture Experiment Station* for 1890. The fly, says Dr. Goldstein, is attracted by foul odors, and on this account persons with otorrhœa or ozæna are most liable to its invasion. It feeds voraciously on the malodorous discharge and deposits its ova on the surface that furnishes it. The larvæ, or maggots, that result cling most tenaciously to the tissues, so that their removal with a forceps is not always easy. Moreover, they are capable of crawling into inaccessible recesses, and it is said that they have even been known to penetrate into the brain—they are credited with a kind of sawing action—and cause death.

Dr. Goldstein gives a full account of a case of the ravages of this creature which came under his treatment in 1891. A French farm laborer, fifty years old, slept for a number of nights in a hammock or on a bench in the open air on account of the intense heat. It was in the vicinity of a stock farm. One night he was awakened by a tickling sensation and buzzing in his nose. He applied his hand and, as he thought, brushed away a large fly. The next morning he had a feeling of fullness in the nose, and a dense, light-yellow mass was found filling the left nasal passage. Some of it was removed and found to consist of the ova of *Compsomyia macellaria*. Then every portion visible was taken away with a blunt curette, but some of the ova must have escaped detection, for in forty-eight hours more the man's nose was in a violent state of acute inflammation and he complained of excruciating pain and a sensation of "something moving" high in the nasal cavity. Larvæ were removed in great numbers from time to time by means of the forceps or the application of chloroform, and the patient's own efforts expelled others. They amounted to more than three hundred. The frontal sinuses and the ears were involved in the inflammation, and on the sixth day there was a point of fluctuation on the dorsum of the nose. An incision was made and a quantity of foul-smelling pus escaped. The man's temperature and pulse were suggestive of septic fever. However, he finally recovered.

Dr. Goldstein does not regard the agents that have been recommended for killing the maggots as very efficacious, except chloroform used with an atomizer. Dr. Foster, too, found that chloroform killed them immediately, and then he could pick them out with a forceps.

MINOR PARAGRAPHS.

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK AND THE NEXT PHARMACOPŒIA.

The society's committee on the United States *Pharmacopœia,* consisting of Dr. Eli H. Long, of Buffalo, Dr. Reynold W. Wilcox, of New York, and Dr. Howard Van Rensselaer, of Albany, has sent a circular of inquiry to various teachers of materia medica or therapeutics, in which the following questions are asked: "1. Do you find the U. S. *Pharmacopœia* meeting the demands as a standard for drugs and preparations? 2. Is it abreast of the present advances in medical and pharmacal science? 3. What, in your opinion, stands in the way of its more general use by practising physicians? 4. What can you suggest, in a general way, in the line of improvements in the U. S. *Pharmacopœia* at its next revision?" It will be remembered that the revision committee is itself engaged in gathering suggestions bearing upon some of these points, and it is to be hoped that the *Pharmacopœia* of 1900 will be even better than that of 1890, but we doubt if it will often be consulted by practising physicians.

POTASSIUM IODIDE IN THE DIAGNOSIS OF CONSUMPTION.

Dr. Vetlesen, of Christiania (cited in the *Abeille médicale* for November 2d and *Lyon médical* for December 5th), has employed potassium iodide for diagnostic purposes in twenty-seven cases. He gave a tablespoonful three times a day of a one-and-a-half-per-cent. solution. At the end of two or three days there was a positive result in eight cases; the cough and expectoration increased and, on auscultation, sonorous râles could be heard, whereas there had before been no definite physical signs. In only four of these cases could the bacillus be detected, but in the others there were various signs characteristic of the disease. As for the nineteen patients on whom the iodide had no effect, the author considers them free from tuberculous disease. As a matter of fact, he has never been able to find Koch's bacillus in their sputa or produce in them any reaction with tuberculin; moreover, several of them have been under observation for two years without presenting any symptom of pulmonary disease.

THE EXCRETION OF TANNIN, TANNIGEN, TANNALBIN, AND GALLIC ACID FROM THE ORGANISM.

ROST (*Archiv für experimentelle Pathologie und Pharmakologie,* 1897, Nos. 5 and 6; *Fortschritte der Medicin,* November 15, 1897) has conducted experiments bearing upon this matter, partly in conjunction with Spickenboom. Chemical examination of the urine and fæces of man and the lower animals has led him to the following conclusions: Tannin, given by the mouth, by the rectum, by intravenous injection, or subcutaneously, free or in the form of a tannate, does not pass into the urine unchanged, but appears in the form of gallic acid and apparently also in that of another product at present unknown. Tannigen and tannalbin behave in the same way. Given internally, tannin appears in the fæces only in the shape of decomposition products. In the cat tannigen is found in the fæces partly unchanged, while in the human subject it is excreted in the fæces in the form of tannin. In the cat tannalbin passes into the fæces as such or as tannin.

ONE RESULT OF THE LAPORTE CASE.

WE learn from the *Presse médicale* that an Amiens fellow, relying doubtless on the Laporte case as a precedent, lately wrote a letter to a physician accusing him of having caused the death of his wife and child ten years before, by performing craniotomy, demanding to have his loss made good by the payment of ten thousand francs within forty-eight hours, and threatening legal proceedings in case his demand was not complied with. We are glad to learn that the fellow was sentenced to fifteen days' imprisonment.

THE HUMANE POLICE CLUB.

A MEMBER of the medical profession, Dr. A. W. Nelson, of New London, Connecticut, has invented and patented a policeman's club which he calls by this name. Somebody else has called it "the king of clubs." It is coated with semivulcanized rubber, which is sufficiently yielding, it is said, to prevent a blow with the club from inflicting serious injury, while not detracting from the effectiveness of the weapon. This certainly seems plausible.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 28, 1897:

DISEASES.	Week ending Dec. 21		Week ending Dec. 28.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	28	9	16	6
Scarlet fever	186	7	180	14
Cerebro-spinal meningitis	0	0	1	0
Measles	325	11	278	8
Diphtheria	195	19	164	29
Croup	3	2	6	2
Tuberculosis	178	90	192	100

The Druggists' League for Shorter Hours has prepared the following bill: "An Act for the regulation of pharmacists and druggists and to prevent accidents and mistakes in the preparing and compounding of medical prescriptions.

"The people of the State of New York, represented in senate and assembly, do enact as follows:

"SECTION 1. This act shall apply to all cities of the first class.

"SECTION 2. No pharmacist, drug clerk, or other employee engaged in the preparation or compounding of prescriptions in any pharmacy or drug store shall be required or permitted to work more than ten hours on any week day other than Saturday, and not more than twelve hours on Saturdays, and not more than four hours on Sundays and legal holidays.

"SECTION 3. No person employed as a pharmacist or drug clerk in any pharmacy or drug store shall sleep in the pharmacy or drug store where employed or in any room forming part of said pharmacy or drug store.

"SECTION 4. It shall be the duty of the board of health in the several cities affected by this act to adopt rules and ordinances for the enforcement of this act, and also to adopt such additional rules and ordinances to prevent accidents in the preparation and compounding of medical prescriptions as the public security may require.

"SECTION 5. This act shall take effect immediately."

"Non-combatants."—Says the *British Medical Journal:* "The following incident is reported by the *Pioneer* as having occurred during the fighting at the Ublan Pass, Northwest Frontier: 'About halfway down Captain Baird Smith and Lieutenant North, both of the R. S. F., were severely wounded. Surgeon-Captains Beyts and Bamfield, A. M. S., rendered prompt and efficient aid to the wounded, the former with the aid of a sepoy carrying a wounded officer for some distance down the hill under a heavy fire where the ground was too bad for doolies to be used.' This is only one of innumerable instances in this and other campaigns of heroism on the part of medical officers; yet 'our military advisers,' while bestowing definite military titles on pure civilians such as paymasters, who never go under fire, deny military recognition to medical officers who share all their dangers in the field, and on numerous occasions have saved the lives of the very men who do not hesitate to 'pill' them when proposed as members of the 'Rag' or Naval and Military clubs."—*Indian Medical Record.*

Hydrotherapeutics in Lakewood.—It is announced that the Lakewood Hotel, Lakewood, New Jersey, has been furnished with a complete hydrotherapeutic apparatus which will be under the direction of the resident physician.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Obstetrics and Gynæcology, on Tuesday evening, the 28th inst., Dr. Eugene A. Smith was to read a paper on the Differential Diagnosis between Appendicitis and Diseases of the Uterus and its Appendages. Specimens were to be exhibited by Dr. C. J. Reynolds.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 19 to December 24, 1897:*

GRAY, WILLIAM W., Major and Surgeon, is granted leave of absence for three months.

PORTER, ALEXANDER S., First Lieutenant and Assistant Surgeon, is granted leave of absence for four months.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two Weeks ending December 24, 1897:*

RUSSELL, A. C. H., Surgeon. Detached from the Lancaster and ordered home on waiting orders.

AYERS, J. G., Medical Inspector. Ordered to duty at the Navy Yard, Portsmouth, N. H., January 17th.

BAILEY, T. B., Passed Assistant Surgeon. His unexpired leave is revoked, and he is ordered to the Washington Navy Yard.

Parker, J. B., Medical Inspector. Detached from the Navy Yard, Portsmouth, N. H., and ordered to duty as a member of the Naval Medical Examining Board, Washington, January 22d.

Society Meetings for the Coming Week:

Monday, *January 3d:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., Medical Society; South Pittsburgh, Pennsylvania, Medical Society; Chicago Medical Society.

Tuesday, *January 4th:* New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Franklin (annual) and Niagara (semiannual—Lockport), N. Y.; Hudson (Jersey City) and Union (quarterly), N. J., County Medical Societies; Androscoggin, Maine, County Medical Society (annual—Lewiston); Chittenden, Vermont, County Medical Society; Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

Wednesday, *January 5th:* New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond (annual—Stapleton), N. Y.; Penobscot, Maine, County Medical Society (Bangor); Bridgeport, Connecticut, Medical Association.

Thursday, *January 6th:* New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Washington, Vermont, County Medical Society (annual—Montpelier); Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *January 7th:* Practitioners' Society of New York (private); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

Saturday, *January 8th:* Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

Births, Marriages, and Deaths.

Born.

Wille.—In Loreauville, Louisiana, on Tuesday, December 21st, to Dr. and Mrs. Louis G. Wille, a son.

Married.

Dickson—Warner.—In Troy, on Wednesday, December 22d, Dr. Thomas Gordon Dickson and Miss Mary Virginia Warner.

Girard—Foucher.—In New Orleans, on Thursday, December 23d, Dr. Felix E. Girard, of Lafayette, Louisiana, and Miss Mamie Foucher.

Jamison — Bayard. — In Latrobe, Pennsylvania, on Wednesday, December 22d, Dr. William Armstrong Jamison and Mrs. Mary Temple Bayard.

Died.

Galloway.—In Albany, on Sunday, December 19th, Mrs. M. E. Galloway, wife of Dr. Preston E. Galloway.

Griffith.—In Terrill, Texas, on Wednesday, December 22d, Dr. L. E. Griffith, in the eighty-fifth year of his age.

Thayer.—In Lanesboro, Massachusetts, on Wednesday, December 22d, Dr. William Henry Thayer, aged seventy-five years.

Wilson.—In Baltimore, on Monday, December 27th, Dr. H. P. C. Wilson, aged seventy years.

Letters to the Editor.

THE QUESTION OF SENSORY FIBRES IN THE HYPOGLOSSAL NERVE.

New York, *December 19, 1897.*

To the Editor of the New York Medical Journal:

Sir: The article of Dr. William Hirsch in the *Journal* of December 11th, entitled Notes on a Case of Traumatic Injury of the Pneumogastric, Hypoglossal, and Sympathetic Nerves, contains the following passage: "The sensation of the tongue was perfectly normal with regard to touch, pain, and temperature, as well as to taste. This is in accordance with all other observations of hypoglossal disease, so that Lewin's theory that the hypoglossus contains sensory fibres may be definitely considered as disproved." Dr. Hirsch apparently refers here to the article of Lewin on the function of the hypoglossus in the *Charité Annalen,* vol. viii. This article has a clinical and an experimental part. For the statements of the latter part I am in a measure responsible. I made the experiments and formulated the conclusions. It is therefore my right as well as my duty to test the assertion of Dr. Hirsch that his observations definitely disprove what he terms Lewin's theory.

1. It goes without saying that the main carrier of the afferent impulses from the tongue is the lingual nerve. We stated that our experiments demonstrated that some sensory fibres were present also in the trunk of the hypoglossus nerve. The proportion in which these fibres actually participate in the normal sensibility of the tongue we did not investigate or even discuss; we may admit, however, *a priori,* that their share is probably quite small. If we had a pathological case with an anæsthetic tongue and a lesion of the fifth nerve, while the hypoglossus was intact, such a case could indeed be properly brought up against our statement of the presence of sensory fibres in the hypoglossus. However, a case with "normal" sensibility and normal lingual nerve and injured hypoglossus not only does not definitely disprove our contention, but does not even affect it in the least. Would Dr. Hirsch be able to recognize a reduction of one per cent. of the normal sensibility or even of five per cent.? Dr. Hirsch's assertion that the sensation was "perfectly normal" and the utilization of this assertion against our statement are quite open to objections which I shall not dwell upon. I wish, however, to emphasize that our conclusions are based not upon testing the sensibilities, but mainly upon the causation of reflex effects in the anæsthetized animal.

2. We ourselves state that the division of the trunk of the hypoglossus at a point central to the descending branch does not remove the sensibility of the peripheral end of the nerve. The sensory fibres of the hypoglossus originate chiefly from the upper cervical nerves; they join the trunk at a point peripheral to the division, and they reach it also by the way of the descending branch. We ourselves insist that the hypoglossus itself as it leaves the cranium does not possess any sensory fibres. The case of Dr. Hirsch, in which the lesion of the hypoglossus occurred as high as the region of the superior cervical ganglion, is in a certain sense rather parallel to our

experiment, and does certainly not disprove our statement that the trunk of the hypoglossus contains sensory nerve fibres, a statement which, by the way, is not a theory, but was based upon experimental facts.

S. J. MELTZER, M. D.

ACTINOMYCOSIS IN MAN.

POST-GRADUATE MEDICAL SCHOOL HOSPITAL,
NEW YORK, *December 22, 1897.*

To the Editor of the New York Medical Journal:

SIR: I am a patient at this hospital and therefore can not have access to my notes, so I send you the following, written from memory.

If Dr. John Ruhräh will consult the files of the *Medical Record* of about five years since he will find an elaborate article on actinomycosis in man, with several cases described and good illustrations.

It is very common with cattle in this country, and that form of the disease offers the best opportunity for its study, as material is always on hand and curative experiments can be made. Dr. Noyard, of the Bureau of Animal Industry, made several experiments with permanganate of potassium for curative effects, with the very best results; the swelling immediately subsided, and the disease seemed to disappear, but I never heard what were the final results.

If Dr. D. E. Salmon, chief of the bureau, is consulted, he can give valuable information on the subject, and can send some printed matter, published by the department, relating to this subject.

If Dr. Ruhräh has any printed matter relating to his own experience I should be glad to have copies.

JOHN MICHELS,
Late Microscopist, United States Bureau of Animal Industry.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Nineteenth Annual Congress, held in Washington, D. C., Tuesday, Wednesday, and Thursday, May 4, 5, and 6, 1897.

The President, Dr. CHARLES H. KNIGHT, of New York, in the Chair.

(*Continued from volume lxvi, page 813.*)

A Contribution to the Subject of the Treatment of Laryngeal Phthisis.—Dr. T. M. MURRAY, of Washington, read a paper on this subject. (See page 8.)

Dr. NEWCOMB: With regard to the amount of creosote which may be tolerated by the human system, I will simply say that I have had a patient taking thirty-six drops three times a day. At first I gave it in a mixture with infusion of gentian and mucilage of acacia, making an emulsified preparation; of late I have given up all forms of fluid preparations and use only the pills, and find that they do as much good.

Dr. LANGMAID asked that a correction be made in the quotation. It should be a twenty-per-cent. solution and not a two-per-cent. that he used.

Dr. INGALS: With regard to the administration of creosote, as a rule it is not very well tolerated, whereas the carbonate of creosote may be taken without discomfort after eating, three times a day, even in doses as large as a drachm.

Primary Lupus of the Larynx.—Dr. EMIL MAYER, of New York, presented a paper on this subject. (See page 15.)

Dr. SWAIN: I recall a case that I had under observation some years ago, of healed lupus of the larynx, being of interest in that its existence had not been known until discerned by tuberculin. It was at the time when Koch's lymph first made its appearance and attracted so much attention. There were a number of persons who applied for treatment: among others, a young woman who had had lupus for nine years, with ulceration of one wing of the nose and some infiltration extending on to the cheek, where there were also some scars. There were striated cicatrices in the hard palate, but there were absolutely no adhesions of the soft palate to the pharynx. There was also a large scar on the left side of the tongue at its base, extending down and involving the epiglottis, the latter having been nearly half destroyed. The arytænoids and vocal bands were not involved. Left false cord showed, however, a long scar. The patient had a very good contralto voice. It was strange that this, in its acute stage, could have existed without symptoms, except, perhaps, for a short period. The testimony of herself and her mother was to the effect that she never had any prolonged sore throat in her life, unless when a child. The diagnosis of lupus of the face was made by Dr. Fox, of New York, after microscopical examination. This view was afterward borne out by the use of tuberculin. The first effect noticed was that the infiltration became more voluminous and all the lesions in the face turned to a bright-red color. During the period of reaction from the injection the scar tissue in the throat reacted, taking on a very bright-red hue. After one injection hæmorrhagic spots appeared on the epiglottis. The treatment had absolutely no effect upon the progress of the lupus. Since that time the patient has been treated by Dr. Fox with the hot iron. The reaction which I just referred to after using tuberculin passed off in a few hours, and brands the old scars as unquestionably tubercular in origin.

Dr. HUBBARD: The differential diagnosis between lupus and tuberculosis of the epiglottis is possible only where there is a considerable period for observation. In fact, the rapidity of progress of the destructive process may in some cases be said to determine the diagnosis.

I have recently reported a case in which the epiglottis had been destroyed. There was little or no cicatricial tissue formation. The appearance would have suggested lupus, but the history of prolonged exposure to tuberculous infection and the general condition of the patient determined me to call it tuberculosis, and, although there were no indications of pulmonary involvement, yet I think that it will develop.

Dr. WRIGHT: We can not draw any more hard-and-fast line between tuberculosis and lupus of the larynx clinically than we can microscopically. While I am familiar with cases which present the characteristic appearances of lupus and of tuberculosis, as described in the books, I also recall a larger number of cases which were on the border line, with very little deposit in the lungs. So that one is often at a loss to say positively whether a given case is tuberculosis or lupus. I was very much struck by the appearance of the larynx in a recent case of a young girl, eighteen years old, who came into my clinic. She had a sore throat without any cough. Two years before she had begun to get a little hoarse. This had steadily increased. There had been no loss of weight. For a few months she had noticed dyspnœa upon slight exertion. She had no history of syphilis. I could get no family history, as she did not know anything about her parents; she was an inmate of an orphan asylum. The examination of her throat showed very great infiltration of the larynx, and the mucous surface had a dusty look. Those who have seen much of lupus will remember the dusty granular appearance of the surface as distinguished from the smooth surface of tuberculous infiltration. This infiltrated mucous membrane with the dusty look stretched across the laryngeal image, involving two thirds of the laryngeal aperture. There seemed some danger of suffocation. There was slight infiltration of the lung at the left apex. I was inclined to look upon the case as one of lupus, but as we did not think of making a diagnosis of lupus without bearing in mind the possibility of its being syphilis, I sent her into the hospital and put her upon large doses of iodide. When she first entered the hospital the sputum was not examined. To my surprise, under the iodides the larynx cleared up, and I said to myself, Here is the old story of unsuspected syphilis. Although the tumor had disappeared, her sputum, when examined, was found to contain tubercle bacilli. A slight cough is now present, and the course of the disease in the lungs is progressing in the ordinary way of phthisis. When the patient first came under observation all the appearances were those of laryngeal lupus. It might be said that this is a case of mixed infection, but I am not much in favor of mixed infection. The line of demarcation between tuberculosis and lupus can not be drawn with any great accuracy. I have seen one case of primary lupus of the soft palate in which the treatment by tuberculin was used seven years ago, and he is now practically in the same condition that he was at the time when the case was reported.

Dr. Mayer: I regret that Dr. Simpson was unable to remain for this discussion, as he had the opportunity of examining both the cases here reported, and I would have been glad to hear the expression of his opinion upon them. With regard to the case reported by Dr. Swain, I would ask if the eruption in the throat was recent or of long standing?

Dr. Swain: The lupus of the nose had existed for nine years, and there is no precise date of any sore throat, certainly nothing more than any child might have.

Dr. Mayer: The facts brought out by Dr. Swain in his case show how severe destruction may exist in this affection and no symptoms present themselves, and how, stated in my paper, the discovery of lupus of the throat is nearly always accidental, hence the greater need for laryngoscopic examination.

As to the question of calling all these cases of lupus merely tuberculous, there is this to be said against it: As we understand these manifestations we must agree that a patient presenting such destruction as here depicted would, within six months or a year at the latest, have been gathered to his fathers, if it were true tuberculosis. Lupus patients live on for many years; hence, if it were only because of the prognosis, the distinction must be maintained. In this contention I am sustained by such eminent authorities as von Ziemssen, von Breda, Rubinstein, and many others. There are too distinct clinical differences between the two.

I should, perhaps, modify a statement in my paper which declared that tuberculosis never cicatrizes. It should be made to read that tuberculosis never cicatrizes of itself, but may do so after operative procedures.

A remarkable feature of the first case presented is, that with such extensive lesion in the larynx the voice remains unimpaired; his voice is as clear as that of any body in this room.

As regards the second case, it is unusual to be able to report on a case which has been under observation for sixteen years, and to present the history before the same association to which it was first presented.

Book Notices.

Mastoid Abscesses and their Treatment. By A. Broca, M. D., Chirurgien des hôpitaux de Paris, etc., and F. Lubet-Barbon, M. D., Ancien interne des hôpitaux de Paris. Translated and edited from the French by Henry J. Curtis, B. S., M. D. Lond., F. R. C. S. Eng., Assistant to the Professor of Pathology, University College, etc. With Eleven Colored Illustrations. London: H. K. Lewis, 1897. Pp. x–268. [Price, 6*d.*]

The present volume is a translation by Dr. Henry J. Curtis, of London, of a memoir entitled *Les Suppurations de l'apophyse et leur traitement,* originally published in 1895, after having received the Meynot prize awarded by the French Academy of Medicine in the preceding year. Its four chapters bear the respective titles of Mastoid Abscess, Mastoid Fistulæ, Chronic Suppurations of the Middle Ear with Latent Mastoiditis, and Results. Its contents are made up of recitals of the clinical histories of a hundred and twenty-nine cases of disease of the mastoid in its various forms and deductions from them. The subject is considered from the clinical, pathological, and therapeutical standpoints, and careful descriptions are given in detail of the more modern operations, especially those of Schwartze and Stacke.

The work of the translator is excellent. The contents of the monograph, especially in some of its finer deductions, will appeal more perhaps to those who have had considerable experience with this class of affections than to those who are just beginning work in otology. Several colored plates of unusual excellence for a work of this size are introduced, and in general it may be said that the book is a complete exposition of the present status of our knowledge on this subject.

Sinnesorgane. Erste Abteilung. Haut (Integumentum commune). Von weil. Professor Dr. A. von Brunn, in Rostock. Mit 117 teilweise farbigen Abbildungen im Text. Handbuch der Anatomie des Menschen. Herausgegeben von Professor Dr. Karl von Bardeleben. Fünfter Band. Erste Abteilung. Jena: Gustav Fischer, 1897. Pp. 109.

This posthumous work of Professor Brunn's is a remarkably thorough description of the gross and minute anatomy of the skin and its appendages. It presents the results of wide research and much personal observation, and is written in a lucid, interesting style. It is profusely illustrated, some of the illustrations showing a higher degree of finish than is usual in German anatomies. A classified bibliography containing over four hundred titles is appended to the section.

Therapeutics: Its Principles and Practice. By H. C. Wood, M. D., LL. D., Professor of Materia Medica and Therapeutics, and Clinical Professor of Diseases of the Nervous System, in the University of Pennsylvania. A Work on Medical Agencies, Drugs, and Poisons, with Especial Reference to the Relations between Physiology and Clinical Medicine. The Tenth Edition of A Treatise on Therapeutics, thoroughly revised. Philadelphia: J. B. Lippincott Company, 1897. Pp. xxxi–17 to 1033.

The mere announcement that there has appeared a tenth edition of this classic work is in itself a sufficient notice, and as for criticism, that is scarcely applicable to a work which has for many years been the undisputed American authority upon pharmacology and bids fair to maintain its pre-eminence for many years to come. The features of the book in its former editions are familiar to all therapeutic readers, and, save for such correction as pharmacological progress has required, these features remain undisturbed. The chief addition is, of course, upon treatment with animal agents. Though this matter is brief, it is both judicious and judicial, and affords the reader the pith of the subject as understood to-day.

Handbuch der Therapie innerer Krankheiten, in sieben Bänden. Herausgegeben von Dr. F. Penzoldt, Professor in Erlangen, und Dr. R. Stintzing, Professor in Jena. Zweite theilweise umgearbeitete Auflage. Erste Lieferung. Mit 11 Abbildungen im Text. Zweite Lieferung. Mit 7 Abbildungen im Text. Dritte Lieferung. Mit 21 Abbildungen im Text. Jena: Gustav Fischer, 1897. Pp. 617.

Not infrequently the physician experiences the necessity of hunting through several volumes for the knowledge of those details which are essential to the success of every course of treatment. To diminish the labor of this search was the motive of the editors in the preparation of this work. The plan was laid out on generous lines, including the treatment, not only of the diseases usually classed under the name of internal diseases, but also of those of children, the skin, the sexual organs, and the mind.

The work is pre-eminently practical in character. Its main features are fullness of practical detail and condensation and brevity of expression. The several chapters, all of them contributed by clinicians of distinction, are constructed on the same general plan. Each begins with a brief review of the ætiology, pathology, nature, and diagnosis of the disease in question. Accurate and detailed descriptions of generally recognized therapeutic procedures are given, whether they belong to the domains of therapeutics proper, or of surgery, gynæcology, otology, hydrotherapy, electrotherapy, etc. Disputed questions are stated tersely with an expression of the author's opinion; but in general theoretical and polemical discussions are excluded. A full bibliography is appended to each chapter. Illustrations, mainly of instruments, are sparingly introduced.

The merits of the work received prompt recognition, and a second edition became necessary immediately after the publication of the last volume of the first. In this edition several changes have been made, mainly in the outward form, tending to greater convenience in use. Summaries have been excised, paragraphs of minor importance are printed in smaller type, and the work is divided into seven instead of six volumes. Essentially, however, it remains the same.

These three parts before us comprise the first volume and a portion of the second.

The first volume treats of infectious diseases. Its opening chapter is a scholarly presentation of the subject of prophylaxis by Professor A. Gärtner. This includes eminently practical discussions of the material history of epidemics; of the general and special measures of protection which should be observed by the general and local governments, by the physician, and by the individual; of public and private hygiene, with particular reference to the sanitation of schools; of disinfectants; and of methodical disinfection after the occurrence of infectious disease.

Professor H. Buchner contributes an interesting chapter on protective inoculation and serum treatment. This is followed by an instructive chapter on the general treatment of infectious diseases, by Professor H. von Ziemssen.

The succeeding chapters are devoted to the consideration of individual infectious diseases, and are contributed by such notable authorities as D. Vierordt, L. Pfeiffer, Kartulis, Babes, Maragliano, von Ziemssen, and many others.

The volume closes with chapters on the treatment of affections of the ear complicating infectious diseases, by Professor K. Bürkner, and of similar affections of the eye, by Professor Eversbusch.

The portion of the second volume contained in part three consists of chapters on the treatment of diseases of nutrition, by E. Pfeiffer and von Mering, of which the one on gout, by the former author, and the one on diabetes, by the latter, are specially noteworthy.

A Handbook of Therapeutics. By Sydney Ringer, M. D., F. R. S., Holme Professor of Clinical Medicine, University College, etc., and Harrington Sainsbury, M. D., F. R. C. P., Physician to the Royal Free Hospital, and the City of London Hospital for Diseases of the Chest, Victoria Park. Thirteenth Edition. New York: William Wood and Company, 1897. Pp. xi–746.

In spite of the fact that much which is incident to pharmacological progress is exceedingly short-lived, it nevertheless is true that a work upon this subject can scarcely be considered progressive whose editions are separated by a period so long as eight years. Such intervals of revision are of little importance, perhaps, to him whose therapeutic library is large and who can add to what the older and weightier authorities lack the recent truths which contemporaneous literature supplies. It is different, however, with him whose therapeutic inspiration is drawn from few sources. For this reason it is to be regretted that the revision of Ringer's well-known work should so long have been delayed, for in the past it has been and in its present edition it is one of the most essentially practical and useful therapeutic works in existence. In it more than in most works termed therapeutic the details of physiology, chemistry, and pharmacy are subordinated to true therapeutic considerations, and it is in truth a treatise upon the application of remedies to disease. The plan and scope of the book are unchanged by its rejuvenation, and as for the revisions, they are what we observe in all recent works upon the subject, details without number and a considerable attention to animal agents. The reputation of this work will surely be maintained by its most recent edition.

A Text-book of Practical Therapeutics, with Special Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, etc. Sixth Edition, enlarged, thoroughly revised, and largely rewritten. Philadelphia and New York: Lea Brothers & Co., 1897. Pp. 9 to 758. [Price, $3.75.]

We have happily been called upon so often to express our opinion of this work in its several editions that there can be no question in the minds of our readers as to what we think of it. Its most characteristic feature is that eminent practicability which its title alleges for it. The success of this work has certainly been remarkable and, moreover, deserved, for it has filled a position in this country similar to that occupied by Ringer's *Therapeutics* in England—namely, as a book in which the practising physician might find reliable and ample information without, on the one hand, being dragged through the wearisome intricacies of physiological and experimental detail or, on the other hand, being affronted by terse and unreasonably dogmatic dicta. As a work upon treatment pure and simple the *Practical Therapeutics* of Hare is worthy of great praise.

Praxis der Harnanalyse. Anleitung zur chemischen Untersuchung des Harns nebst einem Anhang Analyse des Mageninhalts. Von Dr. Lassar-Cohn, Universität-professor zu Königsberg i. Pr. Hamburg und Leipzig: Leopold Voss, 1897. Pp. 38.

This *opusculum* may be described as a sort of elementary primer of urinary analysis—an incomplete primer. It gives very clear and brief directions for qualitative analysis as regards the clinically important abnormal constituents of the urine, but the presentation of the subject of quantitative analysis is unsatisfactory, to say the least. Urea is not mentioned, and Fehling's test is simply mentioned and dismissed without description. It is equally defective as regards analysis of stomach contents, the author contenting himself with the description of the qualitative tests for hydrochloric and lactic acids and pepsin.

Stirpiculture; or the Improvement of Offspring through Wiser Generation. By M. L. Holbrook, M. D. New York: M. L. Holbrook & Co. London: L. N. Fowler & Co., 1897. Pp. 3 to 192. [Price, $1.]

Stirpiculture, or the cultivation of stock or race—in this instance that of the human species—is a subject of voluminous proportions. As it involves questions of physical, psychical, social, and political importance, extreme nicety of manipulation is necessary to obtain cohesiveness in argument. To reconcile and amalgamate these divers factors in order to substantiate the advocacy of fewer and better children is no easy task.

It is in respect to these essentials that the author of this little volume has fallen short of a standard so desirable in the presentation of an abstruse proposition.

While the subject-matter is interesting and instructive, it is presented in such an incoherent manner that the reader has difficulty in distinguishing theme from embellishment.

The plea is for fewer children, but better ones. No doubt it is good advice to urge the strong, the capable, and the good to rear as many children as they can, whatever may be thought of the advice to the weak and bad to raise few or none. For the desirability of this *régime* one finds in *Stirpiculture* many valid arguments, compiled and original, but one fails to find any practical suggestions for bringing it about. The less said concerning the theoretical baby the better.

BOOKS, ETC., RECEIVED.

Diseases of the Stomach. Their Special Pathology, Diagnosis, and Treatment, with Sections on Anatomy, Physiology, Analysis of Stomach Contents, Dietetics, Surgery of the Stomach, etc. By John C. Hemmeter, M. B., M. D., Philos. D., Clinical Professor of Medicine at the Baltimore Medical College, etc. In Three Parts. With many Original Illustrations, a Number of which are in Colors, and a Lithograph Frontispiece. Philadelphia: P. Blakiston, Son, & Co., 1897. Pp. vii–17 to 788. [Price, $6.]

Diseases of the Eye. By Edward Nettleship, F. R. C. S., Ophthalmic Surgeon at St. Thomas's Hospital, London, etc. Revised and edited by W. T. Holmes Spicer, M. A., M. B., F. R. C. S., Ophthalmic Surgeon to the Metropolitan Hospital and to the Victoria Hospital for Children. Fifth American from the Sixth English Edition. With a Supplement on Color-blindness by William Thompson, M. D., Emeritus Professor of Ophthalmology in the Jefferson Medical College of Philadelphia. With Two Colored Plates and One Hundred and Sixty-one Engravings. Lea Brothers & Co., 1897. Pp. xx–25 to 528. [Price. $2.25.]

The Care and Feeding of Children. A Catechism for the Use of Mothers and Children's Nurses. By L. Emmett Holt, M. D., Professor of Diseases of Children in the New York Polyclinic, etc. Second Edition, revised and enlarged. New York: D. Appleton and Company, 1897. Pp. 104.

Memory and its Cultivation. By F. W. Edridge-Green, M. D., F. R. C. S. New York: D. Appleton and Company, 1897. Pp. 311.

John Hunter, Man of Science and Surgeon (1728–'93). By Stephen Paget, M. A., F. R. C. S. New York: Longmans, Green, & Co., 1897. Pp. 9 to 272. [Price, $1.25.]

Spectroscopie des organes, des tissus et des humeurs. Par A. Hénocque, Directeur-adjoint du Laboratoire de physique biologique du Collège de France. Paris: Masson et Cie., 1897. Pp. v–157. [Encyclopédie scientifique des aide-mémoire.]

Transactions of the Medical Society of New Jersey. 1897.

Biennial Report of the Department of Health of the City of Chicago. For the Years 1895 and 1896.

Report of the Surgeon-General, United States Navy, Chief of the Bureau of Medicine and Surgery, to the Secretary of the Navy. 1897.

Report of the Surgeon-General of the Army to the Secretary of War for the Fiscal Year ending June 30, 1897.

Report of the Trustees of the Newport Hospital, presented to the Corporation at its Twenty-fourth Annual Meeting, July 13, 1897.

William Harvey. By D'Arcy Power, F. S. A., F. R. C. S. Eng. Surgeon to the Victoria Hospital for Children, Chelsea. New York: Longmans, Green, & Co., 1897. Pp. xi–283. [Price, $1.25.]

Transactions of the American Ophthalmological Society. Thirty-third Annual Meeting, Washington, 1897.

Eighteenth Annual Report of the Indian Industrial School at Carlisle, Pennsylvania.

The Treatment of Uterine Myomata and Diseases of the Uterine Annexa per Vaginam. By William H. Wathen, M. D., of Louisville, Kentucky. [Reprinted from the *American Gynæcological and Obstetrical Journal.*]

The Treatment of Intraligamentous and Retroperitoneal Uterine Myomata. By William H. Wathen, M. D. [Reprinted from the *American Gynæcological and Obstetrical Journal.*]

Vaginal Hysterectomy. By William H. Wathen, M. D. [Reprinted from the *American Journal of Obstetrics and Diseases of Women and Children.*]

Vaginal Hysterectomy for Uterine Myomata and Diseases of the Annexa. By William H. Wathen, M. D. [Reprinted from the *Transactions of the American Gynæcological Society.*]

Umbilical and Ventral Hernia. By William H. Wathen, M. D. [Reprinted from the *American Journal of Obstetrics and Diseases of Women and Children.*]

The Results of Aseptic Cœliotomy. By William H. Wathen, M. D. [Reprinted from the *American Journal of Obstetrics.*]

The Treatment of Laryngeal Tuberculosis with Cupric Interstitial Cataphoresis, with a Report of Cases. The Advantages of Direct Laryngoscopy in this Method. By W. Scheppegrell, M. D., of New Orleans. [Reprinted from the *Medical Record.*]

Transillumination in Diseases of the Nose, Throat, and Ear. By W. Scheppegrell, M. D. [Reprinted from the *Annals of Otology, Rhinology, and Laryngology.*]

The Application of Heat in Anticipation of Surgical Shock as a Prophylactic Measure. By John S. Miller, M. D., of Philadelphia. [Reprinted from the *Codex Medicus.*]

Hæmothorax from a Stab Wound of an Intercostal Artery. Operation and Recovery. By John S. Miller, M. D. [Reprinted from the *Medical and Surgical Reporter.*]

A Contribution to the Study of Anastomosis of the Hollow Viscera—A Modified Murphy Button. By John S. Miller, M. D. [Reprinted from the *Medical and Surgical Reporter.*]

A Case of Rupture of the Chorioid Coat. By E. C. Ellett, M. D., of Memphis, Tennessee. [Reprinted from the *Ophthalmic Record.*]

Hæmorrhagic Glaucoma, with a Report of a Case. By E. C. Ellett, M. D. [Reprinted from the *Annals of Ophthalmology.*]

Simultaneous Double Aneurysm of the Femorals on the Same Side and of the Femorals and the Popliteal on the Same Side; also Cases of Simultaneous Triple and Quadruple Aneurysm of the Same Lower Limb. By Edmond Souchon, M. D., of New Orleans. [Reprinted from the *Transactions of the American Surgical Association.*]

The Operative Treatment of Ankylosis of the Shoulder Joint. By Edmond Souchon, M. D. [Reprinted from the *Annals of Surgery.*]

The Progress of Laryngology. By W. Scheppegrell, M. D. [Reprinted from the *Laryngoscope.*]

The Advantages of Vagino-abdominal Section. By Thomas H. Hawkins, M. D., of Denver. [Reprinted from the *American Journal of Obstetrics and Diseases of Women and Children.*]

An Improved Method for the Removal of Intraligamentous Cyst. By Thomas H. Hawkins, M. D. [Reprinted from the *Denver Medical Times.*]

The Civic Aspect of Some of the Common Neuroses. By Benjamin W. Holliday, M. D., of Cleveland. [Reprinted from *Medicine.*]

The Urgent Need of Sanatoria for the Consumptive Poor of Our Large Cities. By S. A. Knopf, M. D. [Reprinted from the *Medical Record.*]

The Thyreoid-gland Treatment of Cretinism, with a Report of a Case. By Samuel H. Friend, M. D., of Milwaukee. [Reprinted from the *Medical News.*]

The Antitoxic and Bactericidal Properties of the Serum of Horses treated with Koch's New Tuberculin T R. By Dr. C. Fisch, of St. Louis. [Reprinted from the *Journal of the American Medical Association.*]

Syphilis successfully treated by Hydriatics. By Elmer Lee, M. D., of Chicago. [Reprinted from the *Journal of the American Medical Association.*]

Ligation of the Common Carotid Artery for Trifacial Neuralgia, with Experiments and Observations upon Dogs. By B. Merrill Ricketts, M. D., of Cincinnati. [Reprinted from the *Journal of the American Medical Association.*]

Syphilis of the Central Nervous System. By Sydney Kuh, M. D. [Reprinted from the *Alienist and Neurologist.*]

The Transmission of Syphilis to the Third Generation. By George Ogilvie, B. Sc., of London. [Reprinted from the *British Journal of Dermatology.*]

Plica Polonica. By Francis Fronczak, M. D., of Buffalo. [Reprinted from the *St. Louis Medical and Surgical Journal.*]

New Inventions, etc.

AN INSTRUMENT FOR DILATING STRICTURES OF THE TRACHEA.*

By John O. Roe, M. D.,
ROCHESTER.

This instrument, which is shown in the accompanying illustration, made for me in a very superior manner by Messrs. George Tiemann & Co., of New York, consists of two blades similar to those of an ordinary laryngeal forceps, except that to the lower end of the blade is attached a double-jointed dilating portion so arranged that, on opening the blades, the dilating portion is opened to twice or thrice the extent of the opening between the ends of the blades.

The instrument is made of about the size of an ordinary Mackenzie laryngeal forceps, with the extra dilating portion added. In using this instrument, the dilating portion, closed, is readily passed down through the larynx, when, by opening the blades, the dilating portion is expanded to the desired width. The greater expansion of the dilating portion obviates the difficulty encountered in dilating strictures of the trachea and subglottic portion by reason of the narrowness of the glottis, thus enabling the operator to dilate the trachea to the fullest extent required, at the same time requiring but a slight amount of motion of the blades of the instrument as it passes through the glottis.

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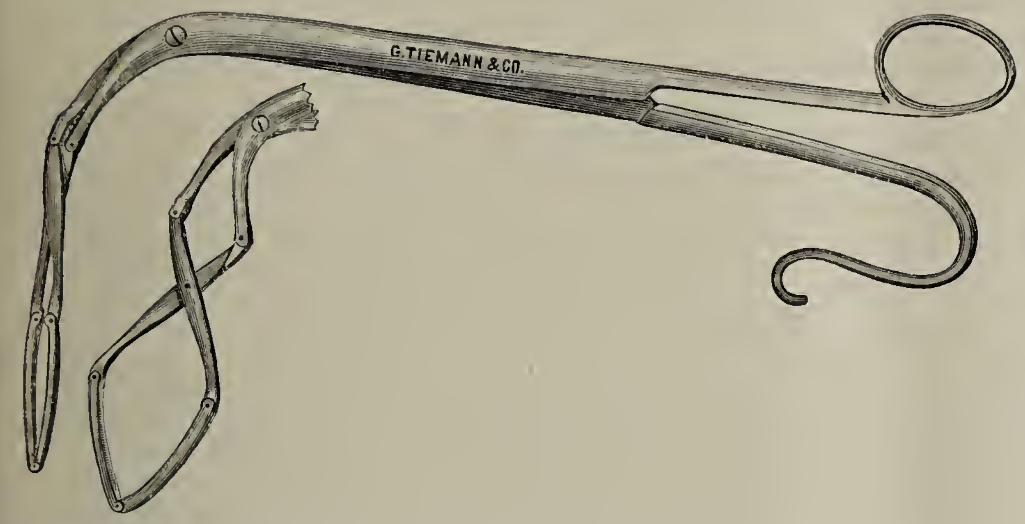
* Presented before the American Laryngological Association at its nineteenth annual congress.



The instrument is so constructed that the dilating portion is expanded on opening the handles so as to avoid any danger of rupturing the trachea, which there might be if the dilator was expanded on closing the handles. In the latter case the operator might accidentally use more pressure than he intended and thereby seriously injure the trachea.

The corners and joints are made rounding, so as to avoid the danger of lacerating the tissues, and so slender as to pass through a very small stricture. If desired, the blades may be covered with a thin soft-rubber hood to still further avoid irritation of the trachea.

Dr. Roe stated that he had found it to be an exceedingly serviceable instrument for dilating subglottic constrictions and tracheal strictures, and had reported a case of fibrous stricture of the upper part of the trachea (*Journal of the American Medical Association,* vol. xxvii, 1896, page 727) in which its use had been attended with complete success.

Miscellany.

Apocynum Cannabinum; a Diuretic Plant.—The *British Medical Journal* for December 11th publishes a paper by Lieutenant-colonel Alfred A. Woodhull, of the medical corps of the United States army, which was read before the Section of Pharmacology and Therapeutics at the recent Montreal meeting of the British Medical Association. Dr. Woodhull describes the plant as follows:

Apocynum cannabinum is the botanical name of a common plant that grows wild from Canada to Florida and west to California. The order Apocynaceæ was so called from its supposed poisonous qualities toward dogs (ἀπο, from, in the sense of opposition, and κύων, dog), and dogsbane is a popular name for the order as well as for more than one species under it. The common name for *Apocynum cannabinum* is Canadian hemp, and it is also vulgarly styled Indian hemp, using Indian as the common designation for the American Indian. Another species with which it is frequently confounded is *Apocynum androsæmifolium,* which also is very widespread. Both of these, but particularly the Canadian, have a tough fibrous bark which may be used for textile purposes, and is so used by the aborigines, hence Indian or Canadian hemp. The common name in the French and the German is also Canadian hemp, of which, of course, cannabinum is simply the Latin translation. This, on the other hand, has no relation, botanical or medical, with the commercial hemp, *Cannabis sativa,* nor with the East Indian variety, *Cannabis indica.* Both species of apocynum, when wounded, exude a milky juice, and hence are known, as are some other native growths, as milkweed. In different regions still other names are locally applied, so that it is difficult to identify the plant in question by common speech. It is best distinguished in a growing state from the androsæmifolium "by the leaves at the bases of the branches being single and sessile, instead of in pairs."

The author calls attention to the medicinal properties of this plant, which reside in the root, and are conspicuous under proper conditions. The *United States Dispensatory,* he says, describes it as being a powerful emetic and cathartic, as a diuretic sometimes, and as promoting diaphoresis and expectoration. It does not give the diuretic dose, but says that three or four grains of the watery extract three times a day will generally act on the bowels, and that fifteen or twenty grains of the powdered drug will generally produce copious vomiting and purging. It adds that the decoction is a more convenient form of administration. It is probable, remarks the author, that these formidable virtues, if such qualities may be thus styled, have deterred those looking for an efficient diuretic who may have fallen upon this account from using the apocynum. The truth seems to be that violent catharsis and emesis follow its abuse and not its intelligent use, and that it is a really trustworthy and singularly efficacious hydragogue, especially in anasarca. Dr. Rush called it the vegetable trocar; some notice of it was published by Dr. M. L. Knapp about seventy years ago; but the first extended account is that of Dr. John H. Griscom, of New York, in 1833. Dr. Griscom's attention was drawn to it when he was a student by an oral expression of its great value by a physician of established reputation. Later statements of its usefulness have appeared in print from Dr. Harvey Jewett, of Canandaigua, N. Y., in 1869, and Dr. Hutchins, of New York, in 1875, through society proceedings. But the fact remains, Dr. Woodhull continues, that apocynum is not a classical drug, it has not a recognized place in the literature of medicine, and its reputation only spreads by the ancient and homely way of neighborhood gossip. It has not yet received the stamp of some high authority in therapeutics. Nevertheless it is a real diuretic of great power, and it seems to have no exact equivalent either in thoroughness or in promptness of action.

The medicine, the author states, is officially known in the United States as apocynum, which is described as the root of the plant in question, and the whole root is designated as active. It is credited with two active principles, apocynin and apocynein, in which its virtues are supposed to reside, but neither of which seems to have been isolated or used medicinally. The official fluid extract, extractum apocyni fluidum, is prepared from the powdered root, using glycerin as a menstruum. Its dose is five minims, and fifteen or twenty minims act as an emetic. The American Pharmaceutical Association contains in its *National Formulary of Unofficial Preparations* the extractum apocyni cannabini fluidum. This contains no glycerin, and the strength is presumed to represent one grain in every minim. The glycerin, or official, process yields a product five per cent. weaker. In both of these the entire root is the therapeutic basis. The watery extract referred to in the *Dispensatory* does not appear in the formal list of preparations, but under the general rule the whole root would have been treated by water and the solid residue reduced to a powder.

As already observed, according to the *Dispensatory* the root is the medicinal part of the apocynum, but, on the authority of Dr. Hutchins, its real qualities are so little known that the whole root, its woody fibre, and even the leaves and stems of the plant are on the market. The author believes that the bark of the root contains the active principle, and that it is best extracted and employed by infusing a drachm of the bark in eight ounces of water, of which the standard dose would be half an ounce once in six hours.

Dr. Woodhull states that the true value of properly administered apocynum is as a diuretic. Its administration as a cathartic or with a hydragogue is ordinarily not good practice, as inducing irritation. According to Biddle, apocynum exerts a sedative action without increasing the blood pressure, but Sokoloff describes it as stimulating the heart and the vasomotor centres, causing a pronounced rise of the arterial pressure, and then acting as a paralyzer, gradually reducing the pressure to zero. This, he thinks, is the true account, for the apocynum of the shops has sometimes been substituted for digitalis. This is not its best or indeed its true rôle, but it has been injudiciously used for organic heart disease, where the life that it had depressed was saved only by abruptly abandoning the apocynum and using strychnine freely.

The practical point, says Dr. Woodhull, to which all this leads is that apocynum properly administered is a very remarkable diuretic. Doubtless it acts indirectly by increasing the arterial pressure, but in his judgment it must also be a direct renal stimulant, and cause dilatation of the renal arterioles. So far as he knows, this has not been demonstrated, but the effects point to such a mode of action. Its influence is best seen in those general effusions that depend upon a want of vascular tone, and, whatever the reason, the empirical fact remains that most remarkable results have followed its use.

Dr. Woodhull cites several illustrative cases which came under the observation of Dr. Jewett and Dr. Hutchins. The former, he says, insists that in cases not complicated with organic disease of the kidneys he has invariably found that it acted promptly in exciting the urinary secretion and in effecting a radical cure.

Dr. Woodhull states that he is perfectly satisfied as to the medicinal value of this drug. According to Dr. Jewett, the bitter fibre of the wood has little value, and induces the vomiting and diarrhœa sometimes experienced. The cases cited are those in which apocynum was used by itself. There could be no objection, however, the author continues, to the simultaneous employment of an infusion of juniper or of medicinal doses of gin as an adjuvant; but it is unnecessary to depend on them with the major remedy at hand. It would not be indicated when the dropsy depended on a seriously damaged kidney; also it could not be expected to remove the effusion or to modify any organic disease on which that might depend. But, with these limitations, he adds, *Apocynum cannabinum* is confidently recommended as a prompt and effectual diuretic.

Public Money and the Drug Business.—Dr. B. T. Whitmore, of Chicago, treats of this subject in an article too long for us to publish entire. He quotes from this journal, from several of the New York newspapers, and from the December number of the *Bulletin of Pharmacy*. The *Bulletin's* article, signed "J. H.," is as follows:

"The *Bulletin* is hunting for a curiosity. It is trying to find one solitary ground, with a faint fringe of cogency or validity, on which may be justified the action of the city of New York in entering upon the manufacture of medicine. Can anybody give us a single adequate reason for the production of antitoxine by the New York board of health?

"The infectious character of diphtheria? Its great mortality? The necessity of promptly suppressing it in the interest of the public health? Diphtheria is indeed a terrible malady, but so is malaria, and quinine bears to malaria much the same relation that antitoxine bears to diphtheria. Yet what State or municipality has found it necessary to manufacture quinine? Supplies are very properly purchased from private producers, on the grounds of economy, quality, convenience, and the impropriety of a governmental invasion into the domain of individual enterprise. The bitter experience of ages has taught the world that when government undertakes to serve the public with commodities, the fate of the public in almost every instance 'is merely to have the dearest and the worst of everything.'

"The argument of quality or accessibility no one will have the temerity to bring forward, for *excellent serum in practically unlimited quantity* is offered on the market by both foreign and American producers of repute.

"On the score of economy the less said the better. All we ask is a challenge, as provocation to show conclusively that the antitoxine furnished the people of New York city could be purchased at from one half to one third its cost to the municipality.

"What, then, is the motive which provokes municipal competition with private enterprise? We can only respond with a shrug of the editorial shoulders. We give it up. Ask the Sphinx or our friend Œdipus.

"See the injustice of the whole business. The New York board of health receives annually a specific municipal subsidy of thirty thousand dollars for the production of antitoxine. It produces enough serum to supply the needs of all the indigent sick. So far so good. But having equipped itself on a scale which yields a considerable surplus, it sells this surplus among the physicians and druggists of New York city, of New York State, and of the United States. The surplus costs it nothing, since its appropriation covers the expense, and with its subsidized product it thus wages lively competition on private and legitimate producers.

"It is outrageously unfair. The city of New York has no better right to enter into the serum business than it would have to manufacture drugs and chemicals, or pure foods, or sanitary underwear, or unadulterated beer, or to start a farm or an 'aseptic barber shop.' All these things come within the sphere of private enterprise, and private enterprise must be notoriously inadequate before any branch of the government is justified in assuming functions grotesquely foreign to its real purpose, which is simply the defense of property and the promotion of justice.

"If the State desires to furnish to the poor without charge sterilized milk or pure medicine, we have not a word of protest. But to do this it is not necessary to embark in business, nor to enter into unfair competition with private manufacturers by selling at a low price a subsidized product.

"In this argument we have no concern with the philosophy and scope of governmental powers, with the merits of State socialism, or with Herbert Spencer's famous arguments against State interference with private initiative under *any* circumstances. We simply hold—and we know that the common sense of the great majority of our fellow Americans will assent to the moderate proposition—that when brisk competition, fair prices, and good qualities prevail in any branch of industry, there is an overwhelming presumption against official intervention, on the double score of justice and policy. In the present case the injustice seems peculiarly grievous, since it discourages a high form of industry which employs a considerable corps of accomplished scientific men and educated assistants."

Dr. Whitmore goes on to say: "The city of New York is engaged in the drug business at the expense—and it is a heavy expense too—of the people, and in defiance of the principle and fact that it is no part of the business of government to engage in or be identified in any way with artistic, commercial, or industrial pursuits. Attention has been called several times to this petty and pitiable attempt to fasten paternalism upon the administration of municipal affairs. But never yet have I seen the point made that New York city's identification with the drug business—in manufacturing and selling antitoxine—is maintained at a cost which is an absolute and foolish waste of public money. This is the truth, however, and it will take but a few moments and a few figures to estimate it.

"Before doing so it may not be amiss to remind the reader that in certain lines of industry wherein the State was competing with ordinary labor, such as in harness-making, the production of clothing, shoemaking, etc., there is no longer any competition of this kind from governmental sources. The earnest and vigorous protest of the people compelled the legislators to pass measures suspending all convict work which would bring prison labor into competitive opposition to the efforts of trades or individuals, and now the penitentiaries no longer turn out manufactured material which, by reason of the manner in which it was produced, undersold the goods of honest producers. There was always some justification for the employment of convicts at the trades and the disposal of their product to the readiest purchaser. The revenue thus obtained helped to sustain the penitentiaries and to pay the convict's way, partially at least, as he went. Prison labor and prison competition might have continued had not their effect been felt by the law-abiders in the trades. Attention once directed to it, the injustice of the system was at once apparent, and it did not take long to abolish it in New York State.

"Now, as has been said before, there was more reason for the existence of prison competition with labor than there is for municipal competition in the manufacture and sale of drugs. The former was not carried on at the expense of the taxpayer except in the shape of competition with a portion of the community, and it was not entirely a profitless burden to the State, because, as we all know, it helped to make the convict self-sustaining. It was not morally or in any other way right that the government should be in such business, however, and it required only the exposure of the wrong to have it soon remedied. If the government could manufacture harnesses or clothing, it could with equal propriety and justice make our furniture, bake our bread, shoe us, feed us, and serve us with drinks; in fact, there is no branch of business or industry in which it could not engage.

"It is a good thing for the taxpayer and the consumer that the government does not go extensively into business, for it is notorious that governments are profligate of expenditure and that they do not exercise the discretion and economy in the managing of their affairs which individuals or firms or corporations do. There is no better or more positive instance of this than is furnished in the case of New York city and its manufacture of therapeutic agents."

Dr. Whitmore then gives extracts from a paper read at the British Medical Association meeting in Montreal by Dr. Biggs, of the board of health, including the following: "'In October, 1894, investigations in connection with the production of diphtheria antitoxine were begun, and in December of that year the municipal authorities made a special annual appropriation (antitoxine fund) of $30,500 for the prosecution of this work. The health department commenced the use of antitoxine produced in its own laboratories on January 1, 1895. The plan, as now developed, includes:

"'1. The furnishing of free diphtheria antitoxine to all public institutions in New York city.

"'2. The furnishing of free diphtheria antitoxine to private physicians for use among persons too poor to pay for the remedy, the only condition being that reports of the cases treated be forwarded to the health department on their completion.

"'3. The free administration of diphtheria antitoxine on the request of the attending physician to any resident of New York city by a specially detailed staff of medical inspectors.

"'The sale of the surplus product of diphtheria antitoxine was authorized by a special act of the New York legislature in 1895, and the funds thus derived, according to the provisions of this act, are devoted solely to "the production and use of diphtheria antitoxine or other antitoxines." The remedy is on sale in over one hundred pharmacies in the city to which it is consigned, the price being fixed by the health department in all cases, and ten per cent. on the sales is allowed to the pharmacies as commissions.'

"From this," says Dr. Whitmore, "it would appear that the only expense of the antitoxine business carried on by the city under Dr. Biggs's direction is $30,000, but this is not so. The cost of the antidiphtheritic serum thus manufactured is about $60,000. The antitoxine fund furnishes half of this, and the other $30,000 is taken out of other funds within reach of the health department.

"Now, then, setting aside the moral and political aspects of the case, let us look at the result from a purely business point of view. Dr. Biggs's paper, already quoted, gives us the result of the expenditure of this

$60,000. It says: 'During the year 1896 25,049 cultures were examined for diphtheria bacilli; 1,856 specimens from cases of suspected tuberculosis were examined for tubercle bacilli; 16,796 phials of diphtheria antitoxine were issued; 918 cases of diphtheria were treated in their homes by the medical attachés of the laboratory and 1,214 persons were immunized.'

"The quantity of antitoxine here manufactured and issued by the city at a cost of $60,000 and at the expense, too, of legitimate trade in this line does not begin to justify the expenditure. Ask anybody capable of giving an opinion in the matter what it would cost to manufacture this quantity of antitoxine under other than municipal auspices, and he will tell you it can be done easily for $10,000. This is an incontrovertible business statement, and the board of health will not have to look far for confirmation of it. If the city is paying $60,000 every year for $10,000 worth of antitoxine, it can be seen that the taxpayer has to pay pretty dear for his therapeutic whistle (and not only that the consumer who gets it from his physician or druggist is going down deeper into his pocket than the actual money value of his purchase warrants). So it will be seen that it is not only in the choking off and killing of healthy competition in this line that the board of health's engaging in the antitoxine business works injury, but it costs the taxpayer ten times what it is actually worth and costs the purchaser in the same exorbitant and disastrous proportion.

"Is there any reason in the world why, with these overwhelming facts against it, the city of New York should continue in the manufacture of antitoxine? None. A State law provides for the inspection of all antidiphtheritic serum by a board of examiners before its exposure for sale. It can not be urged, therefore, that the city is in the business for the protection of the public, for the board of examiners would offer that protection amply. It has not, therefore, a leg of any kind to stand upon. There is not a single argument that can be advanced in favor of the city's persistence in the manufacture of serum at an expense six times greater than other manufacturers would incur in doing the same work, and the sooner it abandons the business to honest competition and the legitimate supplies of therapeutic remedies the better it will be for all concerned."

The Antitoxic and Germicidal Properties of the Serum of Horses treated with Koch's New Tuberculin.—Dr. C. Fisch, of St. Louis, in a paper read at the recent meeting of the Mississippi Valley Medical Association (*Journal of the American Medical Association*, October 30, 1897), said that Koch's original tuberculin, though still of great service as a means of diagnosis, had failed to fulfill the expectations that had been entertained concerning it. This was due to the fact that, while it undoubtedly contained such of the toxines of the tubercle bacillus as existed in their secretions, a more important part remained within the limiting membrane of the bacilli themselves. In the new tuberculin Koch had discovered a way of making these also available, and it had appeared evident to Dr. Fisch, as Koch himself had hinted might be the case, that this new substance, containing the entire toxic products of the bacilli, was likely to prove an efficient immunizing agent, calling forth a complete production of antitoxines in the case of animals by nature comparatively immune.

Acting upon this idea, Dr. Fisch had proceeded to immunize horses with the product and to test the serum thus obtained upon monkeys and guinea-pigs. The upshot of his experiments is as follows: 1. Animals treated with the serum for a period of a month, and subsequently inoculated with a fatal dose of virus, did not in any single instance contract tuberculosis, although all the animals injected which had not been so immunized, without exception, died from tuberculosis, as was proved by post-mortem examination. 2. The germicidal property of the serum was shown by the facts that the mixture of the serum with a fatal dose of the virus did not, on injection, infect the animals so treated, which remained healthy, though, as in the former case, the check animals injected with the serum alone all died; and, moreover, the same immunity was obtained when the serum and virus were injected simultaneously, but in different parts of the animal's body. 3. Monkeys which had been treated with a fatal dose of the virus until they became unmistakably tuberculous were cured by the serum in all cases in which the disease had not been allowed to progress too far before treatment was begun. This experiment, like the others, was subjected to rigorous tests, and all the animals not treated died from tuberculosis, as was proved by post-mortem examination.

The Law of Medical Confidentiality.—In the December number of the *Scottish Medical and Surgical Journal* Mr. A. Taylor Innes deals with this question clearly and concisely as follows:

"The obligation of confidentiality on the part of a medical man in Scotland to whoever employs him has been affirmed in the most absolute way. He must decline to publish not only what is false and slanderous, but also what is true and what would be quite proper to be published by those who had learned it other than professionally. His legal obligations to secrecy, so far from being 'the same as those of a non-professional man,' are expressly founded by the law on the professional contract which the law construes as existing between him and his employer. One result of this is that the obligation to secrecy covers *everything*. The medical man is not entitled to gossip about what he has learned in a professional call, even though he thinks the gossip harmless. Such gossip is equally illegal with the gravest slander, and may equally 'afford a relevant ground for an action of damages,' though the *amount* of damages due in such a trivial case may be represented by a very small coin of the realm. In the case of a *non*-professional man, it may be questioned whether the obligation of confidentiality is for him a general rule at all—it may be rather an exception, arising when something is expressly or exceptionally confided to him. But in the case of a medical man, it is a general rule, and, indeed, a universal one.

"The rule is universal—that is, it extends to everything so long as the medical man is acting voluntarily and of his own free will. In that—the ordinary case—nothing is to be revealed. But there is another case in which everything may have to be revealed. That other is the exceptional case, when the medical man is called to speak by competent authority and in the interest of the public—when, especially, he is in the witness-box. The right to refuse to speak on such a public occasion is known as *privilege;* and rightly or wrongly, there is no privilege allowed to medical men by either the English or the Scottish law. It has often been questioned why the legal relation of confidentiality between doctor and patient should not infer the same *privilege* as belongs in this and most countries to the relation between lawyer and client, and in some countries even to that between the clergyman and one who makes confession to him. But that there is no medical privilege—no right when in the witness-box to conceal a patient's secret such as the lawyer has to conceal his client's—has long been settled. The first proclamation of this in the highest judicial region was in the famous trial for bigamy of the Duchess of Kingston, where Lord Mansfield said, 'If a surgeon was voluntarily to reveal these secrets, to be sure he would be guilty of a breach of honor and of great indiscretion; but to give that information in a court of justice, which by the law of the land he is bound to do, will never be imputed to him as any indiscretion whatever.' The law of Scotland, too, has followed that of England in this distinction—first, indeed, in the same case of 1851. And I part from this side-subject of privilege with one remark. Under the law of Scotland, and especially in its system of private and preliminary criminal inquiry, the medical man may be called upon by the procurator-fiscal and others vaguely described as 'authorities,' to give information, even before entering the witness-box—information of such a kind as may, in his mind, raise a very difficult and delicate question, needing for its decision much legal discrimination on the one hand, and much niceness of professional feeling on the other.

"Returning now to our proper subject of confidentiality as an obligation, I venture to raise the question, *To whom* is this obligation due? All that can be said to have been laid down as yet in our law is that confidentiality is part of the contract between a medical man *and his employers*, and will be enforced accordingly. That is amply sufficient for the ordinary case where the patient and employer are one person. But take the other case, also common enough, where they are different persons, where, for example, the employer, *i. e.*, the person who calls in the doctor and pays him, is the head of the house, while the patient is a member of it —a wife, a daughter, or a servant. The doctor, it is settled, must keep his employer's secret. But what about his patient's secret? Is he entitled to reveal that, even to his employer? And is he entitled to reveal it to those outside, even with his employer's consent? The question may at any moment be a very grave one. Often the father, as head of the house, is the person with whom a secret may be most wisely and kindly lodged. But that is not so in every case, and at all events, the question is, Has he in every case an absolute right to be told it? Of course, where you have the patient's express permission, or her implied and assured permission to tell it, there is no difficulty. But it may be wise to make very sure that such a permission has been granted. For in the very cases where a question is most likely to arise—viz., those which affect morals and reputation—the husband and father is sometimes simply *the last person in the world* to whom the wife or daughter would desire that her secret should be revealed. That may not prove always that the secret should not be told him. But it does prove that the patient has not consented to the telling. And it raises the question broadly, Has the medical man a right to reveal the patient's secret, against her will or without her consent, to her relative who has called him in? Indeed, the question is broader than this. There is often no relationship or tie of blood in the case. The patient is a domestic servant, or otherwise in such a position that it is reasonable in the circumstances, or is part of the bargain, that the master should pay the medical adviser. Does it follow that the medical adviser, called in privately to cure the patient, is entitled to reveal her secret to her employer, or even (with that employer's consent or permission) to other people?

"It can not be said that the answer has as yet been given in the law of Scotland. It will have to be given some day. But of one thing I have no doubt. There is a duty of confidentiality owing by the medical man to his patient, distinct from that duty of confidentiality which the law already acknowledges as owing to the employer or paymaster. Even at present the medical man, who, on being called in to examine a domestic servant suffering from indigestion, discovers a case of pregnancy, and publishes it to third parties outside the family, violates his duty, and would no doubt be held liable accordingly. Nor would it be a sufficient defense that the master and employer made no complaint, or even looked on approvingly. For it is not *his* secret that has been revealed (that also would have been actionable by law): it is in such a case the secret rather of the patient. But, as against third parties, the patient also has undoubted rights. It is of course a much nicer question whether the secret, which may not be tattled of to those outside, may be told (confidentially) to the head of the house. He is to some extent in a privileged position. He has a legal interest, not only to have his domestic cured, but to know what are the prospects of cure, and what is the nature of the illness so far as it may affect his household. But considerations such as these, which indicate the nature of his interest, indicate also the limits of his right. He may, for example, in the case already supposed, be entitled to know of an existing pregnancy. But it does not follow by any means, in the event of a past pregnancy or child-bearing being in the same way incidentally discovered, that the master is entitled to know of that. He would probably be held to have no legal interest in the matter, and his payment of the fee ten times over would not put him in a better position.

"And if there is a duty of confidentiality to the patient (who is not the employer) even in the case of domestic service, there is the same in the more important and more delicate case of adult members of the family. The complications here are infinite, and may call for the highest exercise of professional kindliness and tact. But they will all be applications of one principle, which has not yet been formally or authoritatively laid down in our Scottish law. When the time comes for that, it may perhaps be done by discovering that the word employer ought to include not only the person who calls in and remunerates the artist, but the person also who submits himself or herself to his inspection. But whether it be done upon that theory or upon some franker and more thorough-going one, it will in any case be done. Meantime, I would urge (and it is indeed the reason why I have acceded to the editor's request to bring this matter under consideration of the profession) that the shaping of the future, and even of the legal future, is largely in *their* hands. Law in such matters does not precede, but follows, the wisely adjusted customs of civilization. The rule already laid down—that there is an obligation of confidentiality between the medical man and his employer—was not imposed by our law: it was laid down by it expressly as part of the previously existing and customary professional contract. And the law which I anticipate—that there is a certain obligation of confidentiality also to the patient—will have the same foundation. It may go back for its principle to the earliest times and the oath of Hippocrates, but it will receive its final shape rather from what may be at the time the wise and well-judged practice of the Scottish medical profession."

How to Treat Sick Headache.—Analgesine, says Dr. Hirtz in the *Journal des praticiens* for December 11th, is unquestionably a medicament of the first order. Huchard experimented with it as an antipyretic; but it is especially an analgetic, and Germain Sée used it commonly to combat pain. The dose is, so to speak, individual. Some subjects are relieved by a dose of four grains; others require fifteen grains; and sometimes thirty or forty-five grains are necessary to obtain recovery.

Patients should be warned against the abuse of this drug, which has become public property and is frequently taken without the advice of a physician, as it gives rise occasionally to symptoms of veritable poisoning. Analgesine is more easily tolerated when combined with eight grains of sodium bicarbonate. It may also be administered hypodermically when the condition of nausea dependent upon the headache is too painful and too pronounced to allow of the ingestion of any liquid. It may be given in enemata, from thirty to forty-five grains of analgesine with six drops of laudanum being sufficient for four injections.

Before the employment of analgesine, says the author, caffeine was frequently prescribed, either in potion or in subcutaneous injection, and the following formula by Huchard may be recommended:

℞ Caffeine, } each........ 660 grains;
Sodium benzoate, }
Peppermint water..... .... 8 ounces.
M.

A teaspoonful is to be given every two hours until four teaspoonfuls have been given, each one representing four grains of caffeine. The same dose will be contained in a Pravaz syringe, with the following formula for hypodermic injection:

℞ Caffeine............... .... 38 grains;
Sodium benzoate................ 44 "
Distilled water, sufficient to make ten cubic centimetres.
M.

If the sick headache persists after the administration of analgesine, other drugs may be tried, such as acetanilide. They should not be given except in divided doses, in small capsules containing from three to four grains five or six times a day. Care should be taken not to exceed thirty grains a day.

Phenacetine has the advantage of being almost nontoxic and of provoking much more rarely than analgesine eruptions and symptoms of intolerance. Capsules containing four or five grains may be given four or five times a day.

Exalgine does not give such brilliant results in sick headache as in the trifacial neuralgias. Four grains may be given at a time, but this dose should not be exceeded, and its action should be carefully watched, as it gives rise to accidents.

Lauder Brunton, says Dr. Hirtz, recommends sodium salicylate combined with potassium bromide. The amount is twenty-three grains of the former and thirty-eight grains of the latter, given in four doses.

Immerwahr, Lewy, and Schumann have found in methylene blue a very efficacious remedy for sick headache, especially the form called angeiopastic. They gave it in doses of a grain and a half four times a day, combining it with nutmeg as follows, in order to avoid vesical irritation:

℞ Methylene blue, } each........ 1.5 grain.
Pulverized nutmeg, }
M.

This quantity will make one capsule, about four of which may be given a day.

Migrainine, which is considered by Schumann one of the best remedies for sick headache, is a combination of antipyrine and caffeine as follows:

℞ Antipyrine................. 89.4 per cent;
Caffeine.................... 8.2 " "
Citric acid................. 0.56 " "
M.

Aconitine is sometimes successful when other nervines fail. It is prescribed in globules only, each containing four one-thousandths of a grain, of which two a day may be given.

Guarana contains guaranine, which is identical with caffeine. It is given in a powder in doses of from eight to thirty grains dissolved in water.

Séguin, who was a great advocate of the ocular theory of sick headache, thought it was frequently due to defects of refraction, and he recommended the employment of mydriatics and the correction of the muscular defects by wearing proper glasses. As an internal remedy, he recommended the extract of *Cannabis indica,* to be given three times a day in pills, each containing a fifth of a grain, which amount may be progressively increased to three grains. Gradle, of Chicago, prefers the tincture of cannabis in doses of from twenty to twenty-five drops, twice a day, at an interval of six hours.

Ophthalmic sick headache during its painful stage is amenable to the same treatment as common sick headache. Other indications, however, present themselves in cases in which this form of sick headache is associated with nervous affections, such as neurasthenia, hysteria, certain mental troubles, epilepsy, tabes, and general paralysis. The most useful treatment, and the only one really efficacious, given in the interval between the attacks in order to delay their recurrence, is with the bromides. Charcot and Féré, says Dr. Hirtz, laid great stress on the services which this treatment rendered. Potassium bromide, sodium bromide, or a mixture of several bromides may be prescribed in amounts increased from thirty to ninety grains in twenty-four hours.

Ophthalmoplegic sick headache sometimes resists all treatment. During its painful stage antipyrine, phenacetine, exalgine, etc., may be employed. The paralytic stage is frequently rebellious to all therapeutic intervention, and this is explained, says the author, by the anatomical and pathological changes. In one case Gubler found the oculo-motor nerve surrounded by an abundant exudation, with thickening of the pia mater. In a case coming under Weiss's observation the nerve was buried in tuberculous masses. In another the nerve was pressed upon by a fibro-chondromatous tumor. In spite of these facts, which baffle all attempts at cure, either the iodide or the bromide treatment should always be tried. Locally, energetic revulsives may be tried under the form of blisters, the cautery, or even the seton. Not only must the attacks be cured, but, what is more difficult to accomplish, their recurrence must be delayed, in order to render them less frequent, and, if possible, to cause their disappearance. To do this, the various causes which lead to sick headache should be taken into consideration. The patient should be put upon a strict diet; he should avoid all indigestible food, alcoholic drinks, and liquors, the smallest doses of which bring on an attack of sick headache in predisposed subjects. The majority of recoveries, according to Dr. Hirtz, are due to extreme sobriety.

Debout recommended the following as a prophylactic measure:

℞ Quinine sulphate	45 grains;
Pulverized digitalis flowers	23 "
Syrup, a sufficient quantity.	
M.	

This quantity will make thirty pills. The dose is a pill every night for a period of several months.

In arthritic, rheumatic, and gouty persons, the following treatment is recommended by the author: The patient is put upon a strict diet; nitrogenous or indigestible food, especially vegetables, is not allowed at night, and water or a drink like weak tea may be taken. In the morning, before eating, Carlsbad or Tarasp water, heated to about 104° F., may be taken, or else Vichy water. Every night, before dinner, a pill containing the following mixture may be taken:

℞ Quinine valerianate	15 grains;
Extract of colchicum	from 3 to 7 "
Extract of digitalis	3 "
Extract of aconite	1.5 of a grain.
M.	

This quantity makes ten pills.

Neurasthenic sick headache is best benefited by living in the country, moderate muscular exercise, and a quiet life free from professional occupations. It may be overcome by the employment of the phosphates or of the glycero-phosphates, the use of which may be alternated with arsenic under the form of Fowler's or Pearson's solution, in amounts of from six to twelve drops a day; or strychnine arsenate may be used in globules containing fifteen one-thousandths of a grain, of which from two to three a day may be given.

Hydrotherapy, static electricity, and psychotherapy are, says Dr. Hirtz, ordinarily valuable adjuvants.

The Treatment of the Malarial Fevers.—The *Therapeutic Gazette* for December publishes a long article on this subject by Dr. Clarence J. Manly, of Louisville, of which the following is the substance: Cinchona and its products, says the author, are the specifics for malarial affections, and of these quinine is the type. It may be administered by the mouth, by rectal injection, in suppositories, hypodermically, and by intravenous injection.

For administration by the mouth the sulphate of quinine is usually prescribed. In ordinary cases it is best given in the form of pills or capsules to conceal the taste. Very large doses are apt to irritate the stomach, consequently when a very strong impression is desired it is better to divide the dose and give part by the stomach and part by the rectum or hypodermically. When there is urgent need for an immediate effect it is better to disregard the taste and give in solution, which can be effected by the addition of aromatic sulphuric acid in the proportion of a minim to each grain of the alkaloid. When it is in solution no vehicle will mask the taste, but, if necessary, the back of the tongue can be painted with a two-per-cent. solution of cocaine to destroy this sensation.

In some cases, especially with children, the patient is unable to swallow pills or capsules. Here the salt can be given in suspension and the taste modified by some vehicle. Acid is not to be added, as it will form a solution and the taste will not be masked. Licorice and yerba santa are excellent vehicles for use in these cases.

Chocolate is another vehicle, in which the tannate is often given in the form of confections. Though tasteless, the tannate is of very low alkaloidal strength (22.6 per cent.), hence a large dose is required.

Quinine is readily absorbed from the rectum, and may be given either in enema or in the form of suppository. From ten to thirty grains may be used, dissolved with the aid of acid as above, and given in starch water. Opium may be added to prevent the tenesmus which is unfortunately apt to ensue. Suppositories are made in the usual way, with cacao butter as the basis.

The action of hypodermic injections is prompt and decided, and this means of entrance is, Dr. Manly thinks, particularly valuable in cases of coma, irritable stomach, etc. Injections into the calf of the leg seem to be particularly painful. The point of election is midway between the great trochanter and the tuberosity of the ischium. Probably the best salt for use by this means, when obtainable, is the (unofficial) carbamide hydrochloride, or hydrochloride of quinine and urea, which dissolves readily in its own weight of water, and is not irritating to the tissues, even in concentrated solution. The bisulphate has been recommended, with the addition of tartaric acid (one grain to five of quinine) to the solution to maintain the acid reaction and prevent precipitation in the tissues by the alkaline juices. The hydrochloride is much used, on account of its solubility.

Should all of these be unobtainable, he says, the sulphate can be employed in the method recommended by Dr. George Dock, as follows: The solution is made in the strength of ten grains to a fluidrachm, so that a hypodermic syringe will contain from three to five grains. The capacity of the syringe should be accurately known. The salt is mixed with distilled water, adding dilute sulphuric acid drop by drop until the whole is dissolved, and then adding water to make the required quantity. The injections should be made deeply. The resulting pain can be alleviated by hot applications.

The method of intravenous injection devised by Baccelli, the author continues, is indicated in desperate cases, where other avenues fail; and its use under these circumstances has been attended with brilliant results. The solution he recommends is as follows:

℞ Quinine hydrochloride	15 grains;
Sodium chloride	12 "
Distilled water	2½ fluidrachms.

Having been boiled and filtered, the solution is injected preferably into a vein of the leg as being some distance from the heart, concentrated solutions of quinine being direct local depressants to the heart. The strictest asepsis should be practised.

The enormous doses of quinine which were once given have been shown to be excessive. Binz, by experimentation, showed that in solutions of 1 to 20,000 quinine was quickly destructive to organisms similar to the *Plasmodium malariæ*, and a dose of five grains will make a solution in the blood of a strength approximating 1 to 16,000. Clinical experience also has proved that in the milder forms of the infection from fifteen to thirty grains between the paroxysms is sufficient to arrest them. In the pernicious form, however, it must be pushed for its effect. The hypodermic dose should be about half of that to be given by the mouth, and when used by the rectum the dose should be somewhat more than by the mouth.

For children, says Dr. Manly, Rotch gives the dose as half a grain for six months and under, and at the rate of one grain for each year of age over that, up to the adult dose. In some persons even small doses of quinine produce very unpleasant effects, in the shape of eruptions, tinnitus aurium, vertigo, and other symptoms of excessive cinchonism. In some of these cases, if quinine can be used in minute doses, it will have the same effect as the full doses in individuals without the idiosyncrasy. In other cases some other means must be adopted to combat the infection. Of these, arsenic is valuable in the more chronic cases, but is of comparatively little benefit in acute malarial disease, a very large dose being required for any effect at all. Methylene blue, in dose of from one to four grains, is one of the best substitutes for quinine. Narcotine, from two to five grains three times a day, is recommended by Ringer as having marked antiperiodic effects. Certain drugs are useful to combat the unpleasant effects of cinchonism. Morphine, a sixth of a grain hypodermically, with one one-hundredth of a grain of atropine, not only does this, but acts as an adjuvant to the quinine in curing the disease as well. Ergot and the bromides, given with quinine, mitigate the unpleasant effects. All the succedanea of quinine are vastly inferior to it in effectiveness, and should be adopted only in the presence of direct contraindication to that drug. The fear of producing an abortion should not prevent the use of quinine in pregnant women, as it has little or no effect upon the uterus except at term. The malarial poisoning, if not checked, would be more likely to cause abortion than the quinine.

Intermittent fever, says Dr. Manly, is at once the most common form of malarial affection and the one most amenable to treatment. If it is seen during a paroxysm the administration of quinine should be delayed, as it will not abort the attack, but will rather increase the discomfort. A hypodermic of morphine at this time will do much to mitigate the severity of the symptoms; or one fifth of a grain of pilocarpine hypodermically will have a like effect. If the chill is severe, stimulants may be needed, with friction, hot applications, etc. During the fever ice, ice-water, and acidulated drinks may be used to allay the thirst, with spongings and the ice-coil if the temperature should become excessive.

It is during and after the sweating stage that the specific treatment is to be carried out, and it should be pushed energetically with a view to warding off, if possible, the next paroxysm.

It is usual to begin the treatment with a cholagogue, such as calomel in four quarter-grain doses half an hour apart, followed by a saline. The idea is, says the author, to restore the function of the liver, deranged by the malarial poison. The catharsis is also supposed to aid in the absorption of the quinine which is to follow. The efficacy of this preparatory treatment is disputed, however, he says, by such eminent and careful observers as Osler and Austin Flint. With the experience of a long series of researches, Flint maintains that the use of cathartics not only is of no benefit, but actually antagonizes the interruption of the paroxysms. Where constipation exists, however, mild laxatives are indicated.

The quinine may be given either in a single large dose, or in smaller doses, such as five grains, repeated several times a day, and its administration should be kept up until the paroxysms are interrupted. After this the patient should be fortified against the "septenary periods" by giving the quinine on the sixth, thirteenth, and twentieth days, thus accomplishing a sort of "fractional sterilization" of the blood. If enlarged spleen and anæmia persist, as is especially true in long-continued cases, ergot is of benefit, together with tonic measures—iron, arsenic, strychnine, etc.

In remittent fever, continues Dr. Manly, the quinine is to be pushed in the remission. The organisms seem to be in a condition of lowered vitality at this time, and the treatment has a more pronounced effect on them; indeed, in some cases it is the only period in which remedies seem to have any effect at all. If the remission is not distinct the thermometer may be used to identify it. The stomach is often quite irritable, preventing treatment *per os.* Here one of the other avenues must be used. If there is bilious vomiting, it should be encouraged by warm water until the stomach is emptied, and then the stomach quieted by abstinence from food and the administration of limewater, and if necessary opium. The strength must be maintained, giving food and stimulants *per rectum* if necessary. The same septenary precautions and after-treatment with tonics would apply here as in the intermittent form; also the use of sponging, etc., to combat high temperature, and other palliative measures.

In many cases Warburg's tincture, he says, seems to have an admirable effect, possibly due in some degree to the combination of aromatics with the quinine. It is especially recommended by Maclean, who declares it to be superior to quinine alone in remittent and pernicious fever, especially in those varieties characterized by excessive congestion. It should be given in the dose of half an ounce, undiluted, repeated once, if necessary, after two or three hours.

Pernicious malarial fever, says Dr. Manly, differs from the other varieties only in the extreme severity of the symptoms, the great prostration, and the imminent danger of a fatal outcome. These call for prompt and most energetic treatment. Cinchonism must be produced as rapidly as possible, and as the variations in temperature are exceedingly irregular, quinine must be used at once and pushed at every opportunity till its effect is obtained, large doses being necessary. The stomach can rarely be used, and it is here especially, Dr. Manly states, that the method by hypodermic injection and Baccelli's method by intravenous injection serve their most important purpose. The great depression is combated by strychnine and digitalis. In the algid stage reaction can be invited by the use of morphine hypodermically, the application of heat, or brisk rubbing with ice.

The heart and nutrition demand attention. For the former nothing is better than strychnine hypodermically *pro re nata,* in a dose of one thirtieth of a grain. The patient must be sustained chiefly by enemas containing whisky, peptonized foods, broths, etc.

Malarial cachexia is the result of chronic malarial intoxication, which may manifest itself upon various organs. The line of treatment should be directed toward the relief of these various complicating troubles, together with the persistent use of quinine, iron, and arsenic in various forms.

Change of residence on the part of the patient to some locality where he will not be constantly subjected to reinfection is a *sine qua non* of successful treatment.

THE NEW YORK MEDICAL JOURNAL, JANUARY 8, 1898.

Original Communications.

THE CURE OF SINGERS' NODULES.*

By H. HOLBROOK CURTIS, M. D.

A SINGERS' nodule may be defined as an inflammatory growth situated at the junction of the anterior and middle thirds of the vocal cords.

The cause of these growths is the employment of an injurious method of attacking tones, or using a focus of tone which places the initial impulse upon the cords in such a manner that attrition becomes possible. The damage is done chiefly in singing the so-called upper medium register, as in the high register the segmentation of the cords is rearranged in such a manner that the vocal cords do not rub against one another.

That singers' nodules are the result of a direct mechanical effect caused by the interference of opposite vibrating segments, and are not true nodes in an acoustic sense, has been proved beyond doubt by the investigations with the stroboscope of Oertel, Koschlakoff, and Simanowski. If we would investigate the changes which take place, we must go back to the first indication of improper vibration, which demonstrates itself by the behavior of mucous particles upon the upper border of the bands long before any interstitial changes take place within the cords themselves or their mucous coverings.

On examining the cords while singing the medium register with a bad attack (*coup de glotte*), we frequently observe the mucus on the cord seeking the centre of the belly of the vibrating segment and losing itself over the border as a little globule; later on the mucous membrane begins to show adventitious changes, until finally, by the continued use of the method, the thickened membranes rub together and inflammatory products cause an organized nodule or neoplasm to appear. This is most easily distinguished from a papilloma by the color and general structure, and also from the fact that the latter usually invades but one cord. In the investigation of the subject of faulty method in singing it is essential that the usual method of examination of the larynx be modified, and that the cords be seen throughout their whole anterior portion. To this end we must allow the tongue to repose quietly in the mouth with an ordinary tongue depressor lightly held upon the base, so that an indication is given the patient when the tongue is unconsciously elevated in speaking the vowels *a* and *e*. The patient is then directed to talk and not to sing, simply saying *a* as much as possible in the larynx without pushing upward the tongue depressor, and then the patient is asked to change this *a* to an *e* as nearly as he may be able on the same tone without raising the tongue. The resulting sound is, of course, not an *e* sound, but this mental process is the best one I have found to accustom the patient to show the cords in their most natural state without reflex strain. Under these circumstances we often find evidences of commencing bad conditions which are invisible under the usual methods of examination where we see the cords in greater tension. It should be borne in mind that in the first stages of nodules the singer is only troubled while singing *mezza voce* and in the medium register, and one of the first symptoms of this condition is, that the singer's speaking voice becomes hoarse after singing.

Singers' nodules develop very frequently upon having sung on a single occasion with improper attack; they do not of necessity come from overwork, from singing with congested cords, or upon a cold, though any of these latter conditions may be the starting point of this affection. I have frequently observed in operatic artists the change from one language to another, notably from French to German, cause nodules to appear in a single night.

Enough has been said upon the causation of nodules, and now let me briefly explain the method which relieves this condition, and which has become recognized as the *sine qua non* as regards treatment by many of our leading operatic singers both here and abroad.

In the first place, the exercises I have developed must be undertaken by a person whose musical ear is perfectly able to determine whether the vocal poise is absolutely correct, for if these exercises are attempted with an improper emission or focus they are worse than useless.

In case of acute nodules of attrition one must begin these exercises on the day following their occurrence, for if we allow the patient to rest for several days the cords become soft and a sort of serous extravasation takes place, and then a period of rest must perhaps be instituted.

The great practical advantage of these exercises lies in the fact that the singer is immediately put into working condition by the proper use of these gymnastics of the intrinsic muscles.

Frequently a *prima donna* has presented herself the day following a performance with an acute nodular condition of the cords; she is convinced that two weeks' rest will be necessary before she sings again, for she has pain in her larynx, "hemming" constantly, great hoarseness of the speaking voice, and inability to make but one or two singing tones. Unless she has been encouraged by some singer who has undergone the treatment and who has vouched for the results, it is difficult to make the patient submit to so seemingly absurd a proposition as the method of treatment I am about to explain. I have treated of this subject so fully in my book, recently published, entitled *Voice Building and*

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* Read before the American Laryngological, Rhinological, and Otological Society, at Washington, May 3, 1897.

Tone Placing,* that I merely wish at this time to make a practical demonstration to the members of this society of the method employed, and ask them by their own experience in the use of these exercises to substantiate the results which have been alleged for them.

The object, primarily, is to make the cords adopt a new method of vibration in respect to their segmentation, and this is accomplished by changing the color or overtone effects. To do this, we must cover the tone and make the initial sounds seem to arise from the resonators of the face. The sound made with the mouth closed and commonly written "humph" illustrates this as well as it can be described in print. Now, in the place which we call the focus of this sound we should start the purest and most musical note we are able, imitating the sound of a distant steam whistle, preferably on *c''* of the staff for a soprano and *c'* for a tenor. This having been accomplished, we strive by a mental effort to bring this tone to the lips, the mental tone picture being transformed into the word *ma*, as in mah or maw, and with this labial tone thought dominant the lips should be separated by dropping the lower jaw, the lips not sharing in the least in the muscular effort. If this tone has also taken possession of the buccal cavity—in other words, if the mouth is made a resonator, and the tone is sufficiently far forward—the musical note or hum will be greatly accentuated by opening the mouth in this manner, and the sound will appear to have its origin upon the lips.

There is a very good test which may be applied to find out if this tone made, as I have explained, is correctly poised. This is ascertained before opening the mouth by simply plucking the lower lip with the finger, and if the vocal poise is correct the mouth will give an answering tone even louder than the initial hum, which is all the while going on in the nasal resonators. This nasal hum must be found persistent and without alteration in *timbre*, when the jaw and mouth are again closed. This represents the correct focus of tone, or a tone fullest in its complement of harmonics or overtones, and, consequently, richest in musical quality.

Another test, and one I have recently devised for ascertaining the correct focus of any tone sung, is this: In singing any note in a song where our ear tells us the tone has gone backward from the lips and has lost its full resonance, simply place the forefinger between the lips, touching the angles of the mouth, and rapidly move the same up and down. If the tone is correctly produced the labial vibrations will correspond to the impinging of the finger on the lips respectively, but if the tone is too far back there will be no breaking of the tone by the finger into labial impulses or beats. By these simple means, which are verified by Koenig's apparatus for tone analysis, in that the tones produced by the correct poise are found richer in overtones or harmonics, we are instantly able to tell our patients whether they are singing in a manner to injure their cords or otherwise.

These simple exercises, explained in a few words, represent the results of fifteen years of the closest attention to the subject of tone production carried on with the assistance of some of the most distinguished singers and teachers of to-day, and I think they represent the best practical outcome of the modern schools both here and in Europe.

From the fact that persons who sing with this poise never have nodules, and for the reason that persons who have nodules are cured of the same by the adoption of this method of voice production without the employment of cutting forceps or local applications, may I not claim for this discovery the attention which it merits? To-day many teachers are making a good living as reorganizers of ruined voices by the employment of these suggestions, the importance of which as curative methods laryngologists are slow to recognize. I will simply cite a few cases which will give, I trust, some idea of the results of treatment.

Case I.—Miss M. T. came to my office on March 14, 1893. She had left me eighteen months previously and had gone elsewhere for medical treatment, having refused to change her method of singing, upon my prediction that her voice would not last two years with her false attack and poise. Dr. G. H. Wynkoop was present, also Dr. P. E. D. Malcolm. Patient said she had been assisted to sing by being treated beforehand with a solution of twenty grains to the ounce of silver-nitrate solution painted on the cords, but sang with great difficulty, and was obliged to allow her understudy to go on at least twice a week. The nervous strain was terrible at each representation, until finally her company had been disbanded and she was intending to sail for Europe in two weeks. She expressed her willingness to do whatever I told her in a last endeavor to restore her voice. Her cords presented the appearance shown in the drawing (Fig. 1).

I sent her to a teacher with instructions to give her the previously described exercises upon a single note, the only one she could take making any approximation to a musical sound. This exercise was to be continued a few times every fifteen minutes, no conversation being allowed, and all wants to be communicated by writing or whispering on the lips. Meanwhile the diaphragmatic breathing with raised chest was instituted. At the end of one week the cords presented the appearance shown in Fig. 2, and at the end of two weeks the cords were as in Fig. 3. Seventeen days after her

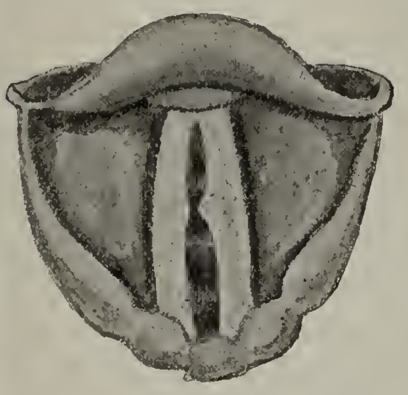
Fig. 1.

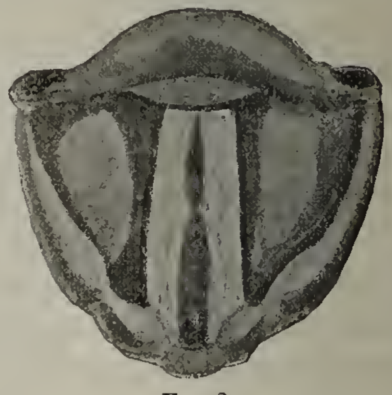
Fig. 2.

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* D. Appleton and Company, New York.

treatment began she reassembled her company and appeared in fifty-four consecutive performances, chiefly at one- and two-night stands, at the end of which time, having conscientiously practised her exercises, she told me she sang with greater ease than she had done for years. This popular prima donna has been singing in London ever since with great success, and has never failed on New-Year's day to write me a letter of warmest gratitude and praise of the exercises which saved her voice. I had an opportunity while in London last year of examining her cords and found them to be in excellent condition, a slight discoloration indicating the previous position of the nodules, but otherwise perfectly straight and healthy.

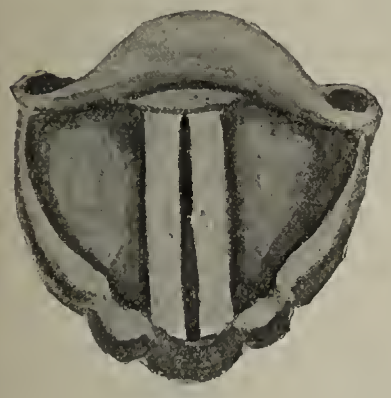


Fig. 3.

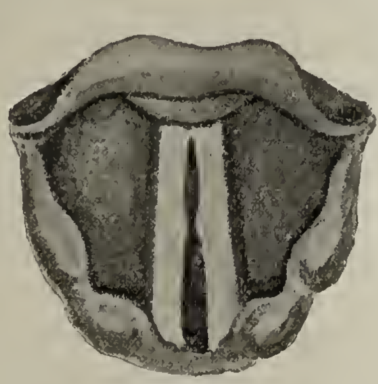


Fig. 4.

Case II.—Fräulein S. came to me from Vienna in March, 1895, with bulged vocal cords and nodules. She had sung her first season in a Wagnerian *répertoire.* She had lost entirely her *piano* voice, and complained of an inability to sing her medium register with any certainty either of pitch or resonance. Her breathing had been clavicular and her attack upon the cords. I had her taught the inferior costal breathing with fixed high chest, and gave her daily exercises for a month upon the arpeggios, sung as I have shown above; at the end of which time she went back to her duties with a perfectly restored voice. Her brother, who has just returned to this country, tells me she is constantly singing with great ease the heaviest rôles of German opera, and has just signed a three years' contract without fear of any recurrence of her trouble.

Case III.—Madame L., opera singer, of Lyons, came to me in November with nodules (Fig. 4). She had been advised by a well-known foreign laryngologist to submit to a surgical operation for their removal. At the suggestion of a distinguished tenor who, besides his operatic skill, is an expert and most observing laryngologist, she offered to adapt her method of singing to accord with my theories. Notwithstanding her constant and arduous work at the Metropolitan Opera House the past season, during which time she has appeared in the leading rôles of the heaviest German operas, she has mastered the method of singing "in the mask," and on February 14th I was able to show her that her nodules had entirely disappeared, and only a little fleck of discoloration remained to show the previous location of the growths.

I would say here that I always make my patients view their own cords in order to keep up their enthusiasm while working, and to make them verify the result accomplished from week to week. I might give scores of just as good results as those mentioned above, but prefer to leave the question at this stage for discussion and explanation.

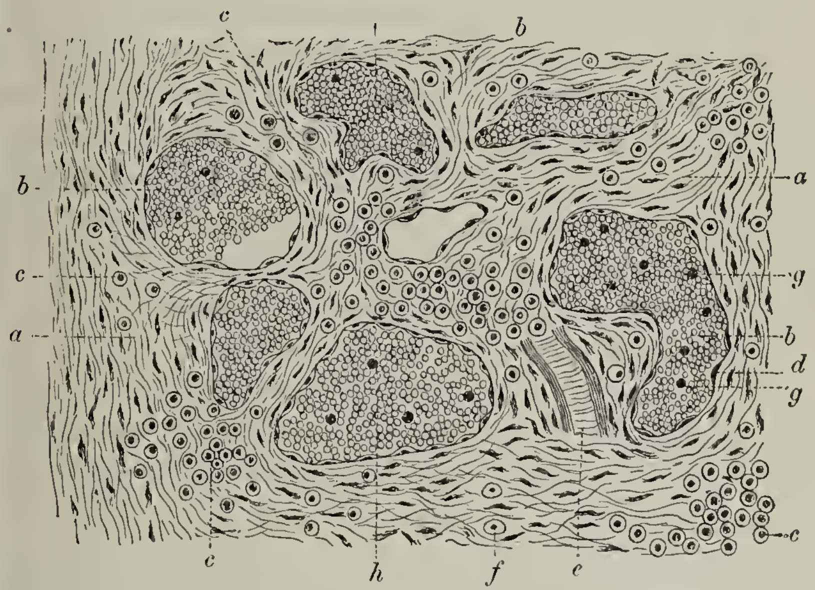
ANGEIOMA OF THE NOSE.*

By WILLIAM C. GLASGOW, M.D.,

ST. LOUIS.

Angeiomata of the nose are very rare, if we can believe the recorded literature on the subject. In a paper read before this society in 1885 Roe has given an extended review of these tumors, and the subject has been treated by Bosworth and Seiler in their text-books. In the greater number of books on the nose no mention is made of them. Roe gives a record of thirteen published cases, but the critics have cut this number to ten. I can only add the case which is the subject of this report, and this is the only case of this kind which has come under my observation in a throat practice of twenty-seven years:

Miss I. H., aged twenty-two years, a stenographer, consulted me for an obstruction of the nose in July, 1896. On examination, a rounded reddish tumor the size of a hazelnut could be seen largely blocking the left nostril. The surface was smooth and more glazed than normal membrane. It was attached to the lower border of the cartilaginous sæptum at its anterior extremity. The tumor was quickly removed by the cold-wire snare, the wire being down as close as possible to the sæptum. The amount of hæmorrhage was trifling—scarcely half a drachm in all. The patient was told to return the next day to have the base cauterized. I did not see her, however, for five months. She then returned, complaining of some interference with breathing. On examination a recurrence of the tumor was evident, as it had grown to almost its original size. It was again removed with the wire snare and the base cauterized with chloracetic acid. Since then there has been no recurrence. Interesting points about the case are the slight loss of blood following the quick removal of the tumor and its recurrence five months later.



a, fibrous connective tissue; *b*, angeiomatous vessels (blood sinuses); *c*, small round-cell infiltration; *d*, endothelial lining of blood sinus; *e*, arteriole; *f*, plasma cells; *g*, leucocytes; *h*, red blood-corpuscles.

The accompanying drawing and description of the microscopical appearance of the tumor have been kindly made for me by Dr. C. Fisch.

The framework of the tumor consists of fibrous connective tissue of the ordinary type with numerous interspersed connective-tissue corpuscles and a few plasma cells. The meshes of this framework are filled out with larger and smaller dilated blood-vessels, which in some places are so abundant and predominant as to reduce the fibrous tissue to merely separating septa. The wall of these blood sinuses is very thin and lined with a very distinct layer of endothelial cells; now and then a communication between two or more of these dilated sinuses can be demonstrated, while the texture of the arterial system is throughout normal. Only in very small areas an œdematous condition obtains, the single fibres of the connective tissue being separated by mucoid material; here an approach to a myxomatous type can be noticed.

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* Read before the American Laryngological Association at its nineteenth annual congress.

The whole tumor is thickly infiltrated with small round cells (leucocytes), which very often cluster together in quite considerable masses, but no proliferative products of the connective-tissue cells could be seen; thereby this infiltration proves to be of the simple inflammatory type.

From these data it appears that the tumor belongs to the so-called angeio-fibromata; angeio-myxo-fibroma would be an adequate designation. From its structure it is closely related to that group established by Rindfleisch under the name of cavernous angeioma. These tumors are rare occurrences, especially in the situation from which the one described was removed.

AUTOTOXÆMIA.

By CHARLES GREENE CUMSTON, B. M. S., M. D.,
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CORRESPONDING MEMBER OF
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OF THE ELECTROTHERAPEUTICAL SOCIETY OF FRANCE, ETC.

(*Concluded from page 15.*)

GAUCHER endeavored to explain the nephritis which occurs during the progress of the cachexias by a similar process to that supposed to exist in "chloro-Brightism." According to this authority, we can suppose that chronic nephritis, so frequently met with in cachectic conditions of no matter what nature, is due to toxic alkaloids which are not eliminated on account of a faulty oxidation and combustion, and are consequently retained in the blood and there accumulate.

Acetonuria is not infrequently present during cancerous cachexia. Adamkiewicz has described the presence of *cancroin* or *neurin*, and Griffiths has extracted a particular leucomaine from the urine of cancerous patients. Klemperer has demonstrated that blood serum taken from a patient with cancer will, when injected into dogs, produce a far more marked disassimilation of albumin than is caused by the serum furnished by a healthy subject.

All these facts give considerable weight to the theory that the nephritis observed in cancerous subjects is due to an autotoxæmia. This hypothesis also explains the renal symptoms occurring in overworked subjects, just as we can explain the fever produced by autotoxæmia. The urine of soldiers after a long march was found by Adducco to contain a special alkaloid. The blood and urine of overworked subjects, or after an attack of epilepsy, are very toxic, and it is easily conceived that under these conditions lesions of the kidney are produced.

Old age is almost a morbid condition, and, according to Oettinger, the waste products, incompletely eliminated on account of the wearing out of the body, circulate in the blood and irritate the vascular system, being, consequently, a probable and important factor in the ætiology of renal as well as a general sclerosis.

Peptone and oxalic acid, which are frequently present in the urine of dyspeptic patients, as well as in dilatation of the stomach and carcinoma of the same viscus, produce a nephritis. Other experiments have demonstrated the presence of a very toxic substance in the contents of the stomach in cases of hypersecretion. Bial and others have been able to demonstrate the presence of Gerhardt's reaction in the urine in cases of dilatation of the stomach, chronic ulcerating gastritis, catarrhal gastritis, and attacks of coma similar to those occurring in diabetes. Boas and Zawatzki found HS in the urine in cases of dilated stomach.

Now, if in certain cases the stomach is a real poison-maker, the intestine, by an exaggeration of fermentation, produces a considerable amount of indol, phenol, scatol, cresol, leucine, tyrosine, various leucomaines, and the compound ammonias of the sulpho-conjugate acids of the urine. These causes contribute to the production of parenchymatous nephritis, which anatomically is characterized by a coagulation necrosis. If, now, for any reason, there is hepatic insufficiency, the toxic substances which are normally destroyed by the liver are to be found in the blood, and consequently come in contact with the kidneys in much greater quantity. This morbid state, which represents the maximum of renal lesions in acute infectious jaundice, forms the principal danger from hepatic lesions.

The albuminuria and various uræmic accidents which arise during, or follow, habitual hepatic insufficiency, are the best proofs of the reality of Huchard's so-called "hepatic kidney," which may be compared to the "cardiac kidney." When there is an obstacle to the elimination of bile, the kidney is altered in its anatomical structure by the direct passage of the coloring matter of the bile. In the beginning, the renal parenchyma presents an infiltration by these coloring matters, and then occurs a fatty degeneration or a granular disintegration of its anatomical elements.

The epithelial lining of the convoluted tubes is especially the seat of pathological changes. In adenoma, cirrhosis, acute or chronic atrophy of the liver, the substances which take the place of the urea, which little by little decreases in amount, are the irritating factors in the kidney. Such, for example, are creatin, creatinin, leucine, tyrosine, xanthin, hypoxanthin, taurin, etc. Gaucher was able to experimentally produce a granulo-fatty degeneration of the epithelium of the convoluted tubes with the above-mentioned substances.

Gouget took up the same experiments and found that, of all these, tyrosine produced the most marked granular degeneration, while leucine caused more particularly a cystic degeneration of the kidney. In overwork, which condition produces an excess of leucine, Roger was able to demonstrate a similar change in the kidney of rats. We can also explain, by the same reasoning, the occurrence of a nephritis following a lesion of the liver. In a dermatitis, or after a severe burn, we sometimes observe a nephritis which is, without doubt, set up by the passage through the kidney of substances normally carried off through the skin, and Röhrig has experimentally produced a nephritis in animals by injecting sweat into their economy. Kianicine found a leucomaine in the blood of animals that had been burned in various degrees, and this substance, when eliminated by the kidney, produced a severe hyperæmia of the organ.

Such is, in a very general way, the manner of action of autotoxæmia, bringing about pathological changes in the renal structure. Now, when these changes have occurred, they in their turn determine a retention within the economy of a large amount of the toxic products, to which may be attributed as a result, and without any doubt, that group of phenomena usually included under the title of uræmia.

It is more than useless for me to insist on this subject, which is familiar to you all, and all that I wish to say is that an autotoxæmia, after having suppressed the renal functions, will produce symptoms the severity of which will be in direct relation to the gravity and extent of the anatomical changes produced in the kidney by the toxines.

I have endeavored to point out, in what has been said, that the organism becomes loaded with toxines that it has itself elaborated in exaggerated quantities, and if the functions of the kidney become interfered with or suppressed by another cause, such as an infection, the toxines accumulate and the clinical phenomena produced will be the same. What has been said for the kidney applies equally to the liver, because this gland, under normal conditions, destroys quite a large amount of toxic substances and will undergo pathological changes when a too large quantity of irritating toxines come into direct contact with its parenchyma, and the anatomical changes thus set up will in their turn produce an hepatic insufficiency, the dangers of which we have already pointed out.

In certain diseases, as, for example, diabetes, the functional change in the liver is shown by the presence of an irritating substance in the blood, which produces a number of functional troubles, the most important of which is uræmia, but what has been said previously in the lecture regarding the diabetic kidney will be sufficient, we think, to render the understanding of hepatic autotoxæmia quite clear to you. Whether the diabetes is of hepatic, nervous, or pancreatic origin, the action of the hyperglycæmia on the tissues will be the same, and it would be outstepping the limits of this lecture if we were to enter into each in any detail.

It now remains for us to say a few words on the important subject of intestinal autotoxæmia. We have already said that the phenols were transformed into the sulpho-conjugate acids in order to be eliminated in the urine, and that these acids increase in quantity when there is an hepatic insufficiency. Now, if the intestinal putrefaction increases, the result will be the same, and the acids will first enter the blood in greater quantity and afterward they appear in the urine.

One of the most important factors in the production of intestinal decomposition is a stasis of the fæces, and any disease producing this condition will show an increase of the sulpho-conjugate acids in the urine. The most frequently met with is simple constipation, which causes a general malaise, anorexia, cephalalgia, acne on the face and body, etc., all these being simply the symptoms of an acute toxæmia from the intestinal canal and should solicit a careful study, especially in the domain of gynæcology.

A word now regarding the pathogenesis of tetany, which, according to Bouveret and Devic, is the result of the action of a toxic matter to be found in dilated or supersecreting stomachs. This will enable you to understand the important part played by autotoxæmia which is the result of a functional change in the digestive system, and it now remains for us to consider a number of disturbances which appear to result from an exaggeration or suppression of the functions of certain special organs which I will now enumerate.

The thyreoid gland appears to be the ætiological factor of autotoxæmia when its functional activity increases as well as when it is suppressed, and quite a number of arguments lead us to believe that exophthalmic goître is a disease of the gland itself. Chevalier suggests that under the influence of certain pathological conditions the thyreoid gland secretes a toxic matter, and this, by directly acting on the nervous system, produces secondary nervous phenomena in the patient. He bases his opinion on the fact that the urine of these patients is hypertoxic.

Other facts may be put forward to sustain this theory. In the first place, many things establish the similarity of the exophthalmic with simple goître, and their relationship with the physiological and pathological disorders of the genital functions are the same. This relationship is still more manifest in the exophthalmic type than in simple goître; it is infrequent to meet with the former before the age of puberty and after the menopause. If the changes in the thyreoid gland are in direct relation to the genital life, as, for example, the female breast is, this relationship is certainly more apparent in the exophthalmic type.

Basedow's disease may also appear in subjects who have had a simple goître for some time, and, although many such instances are probably nothing more than a latent form of exophthalmic goître, still there remain quite a number of cases in which Basedow's disease has certainly shown its presence in cases of simple goître, without the usual factors or neuropathic symptoms being discovered. Joffroy believes that the ætiology of simple and exophthalmic goître is the same in both.

Myxœdema often follows an exophthalmic goître, and in point of fact there are many similar likenesses existing between these affections. The heart is the seat of morbid phenomena in both; in Graves's disease there is tachycardia, while myxœdema produces a decrease in the number of pulsations. And, lastly, attacks of exophthalmia are met with at the commencement of myxœdema.

We frequently observe the occurrence of Basedow's disease after a general infectious malady, and the thyreoid gland is, as we know, frequently the seat of pathological changes in the acute infectious fevers.

We must also bear in mind that the accidents which sometimes take place during the treatment of myxœdema with the thyreoid extract are similar to the clinical phenomena met with in exophthalmic goître. Ballet and Enriquez state that they have been able to produce exophthalmic goître by injecting thyreoid extract, although the symptoms observed were not absolute, and according to these authorities the initial phenomenon of Basedow's disease is an exaggerated functional activity of the thyreoid, and is consequently a humoral disorder. The increased secretion acts directly on the centres of the bulb which preside over the production of Basedow's disease and in a secondary manner on those situated in the spinal cord. Moral: Infections or toxic causes which act on the nervous system produce a hypersecretion in the gland.

Considering now Notkine's theory of myxœdema, it may be said that he considers this affection as being due to an intoxication from one or several toxic substances which accumulate in an organism deprived of its thyreoid gland. This cachexia is to be considered as a true autotoxæmia, and even occurs in animals submitted to fasting after thyreoidectomy. Consequently, it is to be supposed that the thyreoid secretes a substance capable of decomposing or neutralizing the toxic products of intraorganic waste, these products being the factors of myxœdematous cachexia in patients deprived of their thyreoid gland. Experiments have amply demonstrated the fact that the toxic principle is to be sought for in the gland itself, and Notkine has given it the name of *thyreoproteid.*

This substance belongs to the group of albuminoids, and is a well-defined chemical combination, which, if injected into animals, will produce disorders similar to those met with in myxœdematous cachexia. If the animal has had a large portion of its thyreoid gland removed, the toxic action of this substance is more pronounced, and it may be considered as the ætiological factor of a myxœdema occurring after a too radical removal of the thyreoid gland in man. This toxine is either destroyed or neutralized by the secretions of the thyreoid, which is supposed to contain a special ferment.

Whatever value this theory may have, it is nevertheless a positive fact that strumiprive cachexia is very favorably influenced by the administration of the thyreoid extract, either hypodermically or by the mouth, and when cases of exophthalmic goître are treated by injections of serum taken from a dog deprived of his thyreoid favorable results are obtained, because this serum diminishes the effects of an exaggerated thyreoid secretion, or, in other words, neutralizes it.

It has been demonstrated by several authorities that hypertrophy of the pituitary body causes acromegalia. It appears that ablation of the thyreoid gland causes a compensatory functional hypertrophy of the hypophysis, and it may be admitted that both these glands play the same part in relation to those substances whose retention within the organism acts as a toxic on the central nervous system. We must, however, be reserved in accepting this theory, because experiments have not as yet confirmed this hypothesis.

Mering and Minkowski have demonstrated that the removal of the pancreas produces diabetes, while Lancereaux has shown this fact clinically. It is certain that sugar is present in the urine, and that, clinically, all the symptoms of diabetes are observed after extirpation of the pancreas, and Rémond and Rispal have shown that the injection of pancreatic extract will produce an amelioration in these patients. But here, again, in spite of the celebrated theories of Lépine and Chauveau, it is as yet impossible to understand the *why* of these phenomena, but they are in all probability the result of an autotoxæmia.

Exophthalmic goître, the autotoxæmic origin of which I have already spoken of at length in this lecture, was the first example of nervous affections having autotoxæmia as an ætiological factor; but let me say, in closing this lecture, that the experiments of Méré, Bosc, Régis, Chevalier, and others would lead us to presume that a certain number of mental diseases were due to an autotoxæmia, the consideration of which would extend this lecture far beyond its intended limits.

If I have chosen this topic for my inaugural lecture, it is because the question of autotoxæmia is not fully considered in your text-books, and, as you can conceive from what I have said, it is at the present time a most important subject, from both medical and surgical standpoints.

SARCOMA OF THE NASAL PASSAGES.*

By JAMES E. H. NICHOLS, M. D.

Case I.—W. H. S., aged thirty-nine years, by occupation a barber, presented himself October 7, 1893. Family history good; no hereditary disease, but mother died of ovarian tumor. Had inflammatory rheumatism at the age of eleven; no illness since then until one year ago, when he first noticed some obstruction in the right nostril, accompanied by some pain in the right orbit. Two months ago a small spur was removed from right side of nasal sæptum. Since then there has been much progressive loss of flesh and strength, with greatly increased pain in the orbit and with supraorbital and occipital headache. Pain in the nose is not increased. At the time the spur was removed he noticed some bulging of the right eye, but has had no difficulty of vision. Patient denies syphilis, and shows no evidences of having had it.

Examination of Nose.—Right naris clear, but about opposite the end of the middle turbinated body a reddish growth is seen, hard in character, pressed against the sæptum and the turbinate and preventing the introduction of a probe. It does not bleed very readily, is quite dense, and fills the entire cavity except the vestibule. Turbinate anterior normal. On the left side the sæptum is deviated to the left, with an exostosis low down. Turbinates boggy and pale. Lower meatus filled with apparent occlusion by posterior growth. Middle meatus occluded with a growth similar to that of right nares.

Inspection of nasopharynx reveals the presence of a tumor, dense, smooth, red, and firm, filling the entire left choana and most of the right. The base is broad and attached to the vault and sphenoid body. No pedicle. Not friable, but somewhat painful. Patient complains of vertigo. Pain is especially great in the pharyngeal region and in the frontal region on blowing the nose. It is not lancinating, but rather a dull ache. Has occasional epistaxis from the right side, and has twice a day a discharge of pus from the right side, after which he feels relieved. Has anosmia. Complains especially of pain in the occiput on gagging and on moving the head backward and forward.

A letter received from his physician is as follows:

"In regard to W. H. S., he came here January 22, 1893, complaining of what appeared to be polypi, also of pain at times about the ears, which was relieved by irrigating with warm water, cocaine eight per cent., and blisters to the mastoid. About June began to complain of pain in and about right eye. Vision was $\frac{20}{120}$. Disc ill defined and red. Veins enlarged in both. (Prescription: Hydrarg. chlor. corrosiv., gr. $\frac{1}{40}$ t. i. d.) With 62, C. D., 180°, could read No. 1 Jäger. Since then pain has been constant. Right eye more prominent, and it seems as if right antrum was involved, as there was complete stenosis of the nostril. On June 4th I scraped off lower portion of polyp and broke off a small piece of lower turbinated bone, with some slight relief for a time. Every appearance of occlusion of the right nostril, etc. I think it no common case. Suspect sarcoma. Have been using cleanliness and antiseptics."

August 4th.—Attempted to remove portion of growth by cold-wire loop, but failed to catch any.

10th.—Electrolysis with copper needle in right growth; twenty milliampères for two minutes, positive to needle, negative to sponge on back of neck. Thinks he has less pain and that the eye is better.

21st.—Same treatment continued. Much less pain and bulging of eye. General condition much improved. Growth smaller, and that portion in the right nostril more tense. The needle penetrates left portion with much difficulty; it seems to be very fibrous.

23d.—To-day a portion of the middle tumor removed with scissors for examination. Slight hæmorrhage.

25th.—Has had some pain since in occiput. Exophthalmia much less marked.

27th.—Examination shows growth to be sarcoma, round- and giant-celled.

28th.—Growth removed. First attempt by galvano-cautery snare, one end of wire being brought forward through either nostril by means of Bellocq's sound; ends then drawn through long cannulæ, one in either side, the object being to embrace as much of the growth in the nostril as possible at the same time that the fingers in the nasopharynx pushed up the loop posteriorly. The loop was engaged and the current turned on. After burning through partially, the loop broke and the cannulæ came out. No hæmorrhage, and no part of the tumor removed. Then Seiler's gouge chisel was introduced through the left nostril flatwise to sæptum, and when the anterior edge of the tumor was reached the chisel was turned and pushed hard into the tumor at the junction of the nares and the nasopharynx. The chisel was resisted at first, but a little pressure forced it into a cavity. There was a discharge of colloid matter. The chisel was then worked around until a considerable portion of the anterior wall of the tumor was broken down. Same on right side. A large-sized adenoid forceps was then introduced into the nasopharynx, and as much of the tumor as could be grasped was evulsed. Hæmorrhage was slight. The evulsed portion consisted of the anterior wall of the sphenoidal cell from the body of the sphenoid, mucous membrane hypertrophied and thickened, and a fungous mass from the cavity. The entire bony wall of the cavity was carious and the cavity filled with fungoid mass. It was thoroughly scraped out with sharp spoon postnasally and through the anterior nares, the cavity washed out with bichloride solution (1 to 5,000), and packed with iodoform gauze.

31st.—Slight rise of temperature last night. To-day very comfortable. Pharynx sore and with abrasions of mucous membrane. Breathes easily through the nose. No pain in occiput.

September 12th.—Patient has been irrigated with boric-acid solution twice daily, and gradually the nares have opened; he can now breathe through both nostrils. The slight uvular lesion from instrumentation has healed. Only one slight piece has sloughed away. Examination of the right middle turbinate shows it pale, enlarged, and pushed forward against the sæptum. Behind and below the pale turbinate another mass pushes forward and against the sæptum. This mass bleeds easily. On the left, the middle turbinate fills all of the lower meatus posteriorly. Behind, from the superior posterior pharynx, two small club-end projections push forward, but do not reach the sæptum.

16th.—Patient discharged from the hospital very much improved, but obliged to leave for business reasons.

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* Read before the American Laryngological Association at its nineteenth annual congress.

October 27th.—Patient returned to the hospital very much improved in general health; has gained eighteen pounds in the interval; good color and strength. Has some nasal bleeding from the right; none from the left; no pain whatever; discharge slight. The right eye has retreated very much. Reports seeing better. Vision: O. D., $\frac{2}{200}$; O. S., $\frac{20}{15}$.

Ophthalmoscopic Examination.—One half of disc somewhat swollen. Edges hazy and indistinct. Neuritis has subsided very markedly since last examination.

Nasal Examination shows growth in right nostril cavity about the same size as before the previous operation, but much less angry-looking, which pushes the middle turbinated forward. Probe can easily be passed between it and the sæptum. The left chamber is pretty well closed, although by less dense tissue than formerly. No angry prolongations anteriorly. Posteriorly not seen by mirror. All the fungoid growth found to be in the centre of the vault and less dense—rather a smooth surface. The growth in the right choana is small. Can feel edges of the necrosed bone from the former operation, apparently the pterygoid process of the sphenoid. Sæptum felt very far forward, indicating that a portion of the vomer had been destroyed. In the left choana a mass rather smaller than formerly fills the upper portion completely.

Operation.—To-day, after the administration of one fourth of a grain of morphine hypodermically, the patient was etherized, the cavities were thoroughly irrigated with bichloride (1 to 3,000), and the nose was split in the median line down to the tip; the incision was carried into the cavity to the right of the sæptum and between the cartilages, the alæ being drawn away; then with the Seiler chisel the right nasal bone was separated from its fellow, then broken from its maxillary attachment with Adams's forceps, and held back on its periosteal and cutaneous flaps. Bleeding was controlled by forceps. The posterior nares were tamponed with sponges. The mass in the right chamber was then broken into by a gouge chisel and large portions removed. A large, sharp Volkmann spoon was then introduced with the finger in the posterior nares, and vigorous curetting brought away large masses of friable tissue. The ethmoidal cells were broken into and found invaded by the growth. The cells were curetted as thoroughly as possible. The same procedure was done on the left side, with profuse hæmorrhage. The sphenoidal sinuses were also curetted until the roof of the sinuses was plainly felt. In all a mass considerably larger than an egg was removed. The parts were then irrigated with bichloride and peroxide of hydrogen, the nasal bone replaced, and the incision closed by silk sutures. An iodoform dressing was applied.

October 28th.—Passed a comfortable night.

November 3d.—Parts kept clean by irrigation of hydrogen peroxide and boric acid. He complained of pain in the right side and occiput. Nose healed by first intention. Can breathe and blow through both nostrils. Has some bad odor and foul discharge. Inspection shows sæptum margin on the right side considerably torn and swollen; turbinated bodies not injured. The traumatism of the palate has subsided. Posterior nasal examination shows a large cavity with coagulated blood and shreds of tissue and complete occlusion. Complains of considerable pain. Shows no evidence of acute otitis. Ordered arsenious acid, a thirtieth of a grain, three times a day.

6th.—Stitches removed to-day. Healing perfect. Slight swelling over the nasal bones, but no pain.

8th.—Traumatic tumefaction has subsided. Breathes freely on the right side, less so on the left. Snare used on the left growth.

19th.—Patient sent home to-day. General health much improved. Exophthalmia has subsided. Breathes freely on right side. No return of the growth in sphenoidal region, and the nasal growth is less vascular. Ordered injections of methyl blue, ten per cent., in alcohol, ten minims every other day; tablets of iron, arsenic, and strychnine.

May, 1894.—Returned to hospital with large recurrence of the growth, especially on the right side. The eyeball protrudes very much. Complains of soreness in the roof of the mouth, where there is a large swelling visible. The right nostril is totally occluded, and left almost entirely so, about the centre of the passage.

Operation.—Patient was etherized and Dieffenbach's incision was made, exposing the right superior maxilla. The anterior surface was found carious and a large mass projected through the opening. The bone was separated from its fellow and also from its posterior attachments and broken downward with a large bone forceps. The entire cavity of the bone was necrosed, the orbital surface being entirely gone. The tumor extended into the orbit. The eye was removed, and the tumor found to extend through the superior orbital plate. Hæmorrhage was slight, considering the severity of the operation. All accessible portions of the mass were curetted away, exposing the dura through the upper orbital plate, and the parts were thoroughly cleared. They were irrigated and the wound packed tightly with iodoform gauze. The patient made a rapid recovery and gained in strength; and in three weeks returned to his home and continued his business.

January 16, 1895.—Patient has been fairly well since the last operation up to within six weeks, when the growth began to take on a rapid increase. Examination shows the cavity of the excised maxilla filled with a recurrence. The cheek is bulged out, the orbital cavity filled, and the process extends into the external auditory canal and behind the angle of the jaw. Patient has been kept under the influence of morphine on account of the extreme pain. He was put on the use of Coley's toxines of erysipelas and *Bacillus prodigiosus,* one minim hypodermically daily. Further operation was refused on account of the extreme virulence of the growth and its extensive ramifications. No reaction resulted from the antitoxines. They were carried up to seven minims without obtaining the expected reaction.

31st.—A new solution of antitoxine was obtained, and two minims were injected into the mass in the roof of the mouth, followed by severe reaction twenty minutes later—nausea, vomiting, pain in the head, chill, and a temperature of 103.2°.

February 1st.—Temperature and pulse normal. Patient rather weak. Mass in the mouth looks smaller and more contracted.

2d.—Antitoxine repeated, followed by nausea and vomiting and severe pain in the head. No rise of temperature.

3d.—Patient's courage gave out, and he left the hospital without the surgeon's consent.

The subsequent history of this case is as follows: After the patient's return home there was a gradual increase of the growth until the entire pharynx was filled with a mass as far down as the level of the epiglottis, which pressed on the larynx and very much hindered his respiration and deglutition. The mass extended outward far beyond the angle of the jaw, making a large protuberance on the side of the neck, and prolongations extended up into the zygoma fossa; a cauliflower mass projected from the orbit, and the man presented a terrible appearance. Death occurred about four months after he left the hospital, from asphyxia. No autopsy was obtained.

This case justified operative interference, which enabled the patient to pursue his vocation and support his family for many months, which he would have been unable to do without it. The prognosis was bad from the start, but the patient showed remarkable recuperative power and courage until the action of the toxines. It can not be said that the toxines had any effect upon the growth. It is probable that they were employed too late in the disease.

Case II.—N. C., aged twenty-seven years. Came to the hospital November 20, 1895. About one year ago had a polyp removed from the left nares. Twelve weeks ago the left side of her face began to swell and she had a toothache in the upper jaw. One week later had had tooth extracted. Pain not relieved. One month later had second operation performed for polyp on left nostril, and at the same time noticed an exophthalmia of the left eye. Two weeks later a third operation for polyp was performed on the left nostril. The eye was more prominent and she had a great deal of pain in it.

Present Condition.—Exophthalmia quite marked. Left side of face throughout its whole extent much swollen. The lids of the eye are partly closed. Fundus normal. Field approximately normal; no accurate field could be taken. Vision, $\frac{20}{30}$.

Treatment.—Douched the nose with boric solution. Morphine twice a day to relieve pain.

Examination of the nares revealed the presence of a large mass in the region of the middle turbinate, with a large amount of purulent discharge flowing from the nose. The face near the nose was much swollen and tense and seemed to be the seat of an abscess.

Diagnosis of sarcoma was made and proved correct on histological examination.

November 22d.—Operation was made for the removal of the mass of tissue and caseous material from the left nostril by means of snare and sharp spoon.

23d.—Some decrease of pain and swelling.

24th.—Condition poor. Still a large amount of swelling in the nose. Solution does not run through.

26th, Operation.—Patient etherized. Incision made downward and posterior from the inner canthus to the left of the median line from the cartilage of the tip of the nose to the nasal bone. Incision corresponded to a line drawn from the lower part of the nose to the seat of and below the eye. The outer wall of the antrum was removed and the antrum curetted, passing well back into the sphenoidal cells and under the orbit. A large quantity of the mass removed, friable and very vascular. Hæmorrhage severe at first; controlled by pressure. The cavity was thoroughly curetted and painted with a solution of ortho-chloro-phenol and then packed with iodoform gauze.

28th.—Packing removed from the cavity. Considerable swelling and pain. Douching was practised for the next few days, 1-to-3,000 bichloride.

30th.—Erysipelas set in, which was controlled in two days by the use of solution of acetotartrate of aluminum.

December 3d.—No improvement. Stitches were removed from the incision, which had not healed well and exuded considerable pus. The irrigating fluid passed through the antrum and out of the nostrils. Temperature normal, or only slightly above normal.

10th.—Several days marked swelling of the lower lid, which is gradually increasing. Incision made this P. M., and a quantity of foul-smelling pus evacuated. Cavity packed with iodoform gauze. Irrigated twice daily through the opening in the nose, fluid passing out through the opening in the cheek.

11th.—Temperature, 102.5°. Restless and complaining of great weakness.

12th.—Temperature, 102°. Slightly delirious during the night. Is having hypodermics of morphine regularly; parts douched and orbital abscess packed.

14th.—Discharge this morning from the right ear. Douched with hot water. Temperature, 101°.

15th.—Temperature, 100.5°. Feeling somewhat stronger.

16th.—Temperature, 100.3°. Sits up a good portion of the day.

20th.—There has been no material change since the 17th. This evening discharge from the left ear.

22d.—Discharge from both ears. Temperature normal.

24th.—For the past twenty-four hours discharge is more profuse from the antrum and orbit. Erysipelas antitoxine injected, one minim.

26th.—Marked increase in the swelling of the orbit and discharge. Temperature, 102°.

28th.—No special change. Drainage-tube introduced well back into orbit. Increased antitoxine to two minims.

31st.—Less swelling of the orbit. Antitoxine increased to three minims. Slight reaction.

January 1, 1896.—No change in treatment or condition.

3d.—Temperature the same. Profuse discharge continues.

10th.—Temperature, 103°.

Up to January 15th the administration of antitoxine was continued daily with continuous temperature of about 101°, with an occasional drop to 99°, the patient getting weaker every day. Discharge from the orbit and antrum and both ears recurred. The antrum filled with recurrence of the growth very rapidly until the eye was markedly extruded; intense pain supervened in the orbit, in the occiput, and in the aural region of the right side. I refused to make further operation, and she was discharged on the 15th as hopelessly incurable.

On February 26th she died. No autopsy was obtained, but the cause of death given in the certificate is cancer of the face.

Both the primary erysipelas and toxines from cultures failed to make any impression.

Case III.—C. W., aged sixteen years. January 31, 1896. A year and a half ago an abscess appeared on the left temple near the eye and discharged for a long time. The right eye appears to be pushed forward, but is otherwise normal. After the abscess subsided there was left a swelling in the region of the antrum, protruding the cheek and pressing down into the mouth, which has never been smaller than at present. Abscess entirely healed six months ago; since then no change in the swelling in the face. There was an odor in the right nostril apparent to the patient and to others. Some discharge from the right nostril. No pain in swelling, but there has been intense pain in the temple for the last three weeks; before that, no pain except during the progress of the abscess. Examination shows right nostril entirely occluded by a mass, dense, red, not easily bleeding, which pushes the sæptum over to the left, so as to occlude the left nostril also. Swelling in the roof of the mouth destroys the symmetry of the arch. The right eye is much protruded and the right cheek far beyond the normal contour. A portion of the growth from the nostril was removed and found, on examination, to be a round-celled sarcoma. Operation was refused by the parents. Subsequently the case was lost sight of and the history can not be given.

CASE IV.—N. W., a girl, aged seventeen years, came to me in February, 1893, complaining that her nose was stopped up on the left side and had been for some months. She had some pain in the frontal region on that side and over the bridge of the nose. There was considerable discharge from the left nostril, without odor. Her family history was good, and her personal history was negative.

On examination, I found the sæptum pushed over to the right side, somewhat obstructing the passage. On the left side a dense tumor was seen, which filled the entire cavity and even the vestibule. It was firm and unyielding, showed no ulcerated surface, and did not bleed readily. Posteriorly the mass could be seen extending backward nearly to the posterior edge of the vomer. By means of a stiff wire snare a large mass was removed, with profuse but easily controlled hæmorrhage, so that the nostril was opened up. Examination by microscope showed the growth to be a myxosarcoma. On successive occasions other portions were removed by snare and large sharp spoon until the cavity was clean. It was then found that the external bony wall of the nose had been destroyed by pressure, and that the antrum was exposed entire. The new growth extended into the ethmoidal cells. These were thoroughly curetted. For six months the patient did well, was free from all unpleasant symptoms, and there did not appear to be a recurrence of the tumor. She was in excellent condition and returned to her work, that of a box-maker. For six months she was very well, and there was no reappearance. The parts looked healthy and firm. Then (November, 1893) she returned to the clinic complaining of pain in the neck and some postnasal obstruction, which had begun to trouble her within three weeks. On examination the growth was found to have recurred in the region of the sphenoid and to fill the nasopharynx on the left side and the entire nasal cavity.

Ether was given, an incision was made in the median line of the nose, and the left side, including the nasal bone, was laid over on the left cheek. The tumor was then rapidly and thoroughly excavated by means of the large sharp scoop until no portion remained. This process involved the merging into one large cavity of all the sinuses except the frontal and the curetting of the external walls of those sinuses. Hæmorrhage was free but short, and ceased when the cavity was packed. The patient recovered rapidly and in ten days returned home. She remained in good condition for a year. During the last three or four months of that time she returned to her work in a damp, unwholesome cellar, and ran down rapidly in health. Suddenly there was a recurrence of the growth, which this time took on a frightful rapidity, and when I saw her again it had grown to a large size, extending into the orbit, pushing out the eye on the left side, and invading the right orbit also, the sæptum having been entirely absorbed. Nothing could be done for her except to relieve her sufferings with morphine, and she died a little less than two years after the first operation, of asphyxia from a prolongation of the tumor into the pharynx. No autopsy was obtained.

REPORT ON THE OPHTHALMOLOGICAL AND OTOLOGICAL SECTIONS OF THE INTERNATIONAL MEDICAL CONGRESS,

HELD AT MOSCOW, AUGUST 19 TO 25, 1897.*

BY HERMAN KNAPP, M. D.,
NEW YORK.

IT was a great surprise to see the most elaborate and best-equipped medical and scientific institutes—in Russia. They form a whole extensive suburb—"the city of the clinics"—are all new, built during the last ten years, according to the best patterns, with unlimited means.

All clinics have laboratories, in order to hold the science of medicine co-ordinate with the practice. The otological clinic is the finest in the world—a veritable gem. The city of Moscow gave the grounds for it, as well as for all the clinics, and a wealthy lady, Julia Bazanow, donated half a million rubles to build and equip it.

The laboratory consists of several suites of rooms for all kinds of investigations. A complete equipment of acoustical apparatus and instruments was made for it by König, of Paris, at the cost of sixty-five thousand francs. The anatomical and clinical departments are not inferior. There is only one clinic in the world equally well equipped with scientific laboratories—that is the ophthalmic clinic of Heidelberg, where the facilities for research, especially in pathology, microscopy, and experimentation, are unrivaled. The ophthalmic clinic of Moscow is excellent. The means for research, teaching, and treatment are in proper proportion to their relative importance. Besides the university eye clinic (Professor Krückow and Professor Ewetzky) there is a large eye hospital, old and well endowed, under an excellent executive surgeon, Dr. Logetschnikow.

A similar eye hospital exists in St. Petersburg. The building, formerly a palace, was acquired and richly endowed by a lady of the imperial family. Count Magawly, M. D., one of the most amiable of men, unassuming, kind, and painstaking, is the executive surgeon. This institution is one of the largest eye hospitals in the world. For a week I visited its clinics (Dr. Magawly, Dr.

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* Read before the Section in Ophthalmology and Otology of the New York Academy of Medicine, October 18, 1897.

von Schröder, Dr. Blessig, and others) every day, and was highly gratified with the regularity and earnestness of the work and the advanced methods of examination and treatment. They had a Haab giant magnet and an Asmus sideroscope, and their specimens in the museum were put up in an improved Priestley-Smith method with admirable clearness.

Dr. Logetschnikow, of Moscow, had in his clinic about a dozen patients with excessive myopia, successfully operated on, whereas Dr. Blessig, of Petersburg, stated at the congress that they had had three failures in fifty operations.

The organization of the congress deserved all praise. One feature was original, and should be imitated in all future medical congresses. In every section there were two sessions daily—the one from nine to one, the other from two to five. After the morning session a cold luncheon was served gratuitously in the same building. In this way the members were kept together. The arrangements of the meetings were the customary ones. The president of the section appointed a president for each session; the time for communication was limited, and each member that took part in the discussion had to put down his remarks and hand them over to the secretary before the end of the session.

As to the languages used in the proceedings, the German had the lion's share, the French came next, then the English, and last the Russian. Our Russian *confrères* showed everywhere exquisite hospitality and gentlemanly discretion.

I took particular interest in the Ophthalmological Section, and beg to report on some of the subjects that were considered most important.

The first subject for discussion, *the bacteriology of the cornea and conjunctiva,* was admirably introduced by Professor Uhthoff, of Breslau. Only two forms of keratitis can thus far be ascribed to the action of a specific micro-organism—viz., the typical serpent ulcer, by the Fränkel-Weichselbaum capsule diplococcus, and the keratomycosis aspergillina, in which *Aspergillus fumigatus* is invariably found. The other forms of keratitis (scrofulous, phlyctænular, eczematous), hypopyon keratitis, ulcers from trachoma, gonorrhœa, and diphtheria, do not depend on specific microbes of the primary diseases, but on secondary infection.

The micro-organisms of conjunctivitis are better known. Uhthoff mentioned and described: (1) *Gonococcus Neisser,* but the purulent conjunctivitis of the newborn is only in part the result of it; (2) the Fränkel-Weichselbaum diplococcus; (3) the Koch-Weeks bacillus; (4) the *Streptococcus pyogenes* of Parinaud and Morax, which produces milder forms of contagious conjunctivitis; and (5) the diplobacillus of Morax and Axenfeld.

The ætiology of true trachoma is bacteriologically still unknown.

The second question, *the nature and treatment of trachoma,* was introduced by J. Hirschberg, of Berlin, who presented statistics of the occurrence of trachoma in different countries. The epidemic extension of the disease was recognizable, and a real menace to most countries. Kuhnt, the present writer, and others discussed the nature of the two forms of the disease, the follicular and the trachomatous. The mechanical treatment, chiefly by expression, was dwelt upon, yet it was in itself not considered sufficient to effect a permanent cure in the majority of cases, but as requiring to be supplemented by nitrate of silver, sulphate of copper, and the like.

The ever-important subject of *cataract* was discussed at length by different speakers. It appeared that simple extraction had gained ground. Pflüger, of Bern, said that prolapse of the iris could be prevented by exsecting a very small piece of the periphery of the iris. He was told that Chandler and Myles Standish, of Boston, had for several years operated in the same manner with the same result, as could be seen in the annual reports of the Massachusetts Charitable Eye and Ear Infirmary.

Fukala introduced *the treatment of excessive myopia by the removal of the lens.* His views are known; his discourse was controversial. The advantage of this kind of treatment was recognized, but its danger—loss of the eye from hæmorrhage and detachment of the retina—pointed out as an argument to limit the indications to those cases in which the expected gain in sight greatly outweighed the risk.

Kuhnt presented a very valuable *synopsis of the empyemas of the accessory sinuses of the orbit,* especially the frontal. He advocated radical operation, if possible, with restoration of the perviousness of the fronto-nasal canal. He said that by sparing the periosteum disfigurement could be avoided. The present writer dwelt on the differential diagnosis of the affections of the accessory sinuses—mucocele, empyema, sarcoma, osteoma, and their extension from one sinus to another, of which the involvement of the sphenoidal was the most important concerning sight and life. He detailed the methods of treatment.

Professor S. S. Golovine, in an admirable paper, spoke of his experience with Czerny's osteoplastic operation on the frontal sinus. He had operated successfully in this way on five patients. He demonstrated the method on the skull of a dead body.

On the last day I attended the session of the *Otological Section,* which was held in the otological clinic. Dr. Stanislas von Stein, the accomplished and enthusiastic executive aural surgeon of the clinic, made experiments on vertigo and nystagmus which were of great interest, but went too much into detail to be reported at this late hour.

Politzer showed and discussed anatomical changes in the middle ear, especially in the attic. Dr. Stein then led us through his beautiful clinic, which is in reality an otological institute, if we comprehend under that term an establishment which is not merely a hospital, but provides for everything that is in relation with the sense of hearing in health and disease.

Mr. President and gentlemen, allow me to conclude these rather desultory remarks with the declaration that this congress has given all visitors unqualified satisfaction, and I for one shall never forget that peculiar city with its four hundred and fifty churches and their gilt cupolas, which in the bright sunlight made a fairylike impression.

A STUDY OF SEVENTEEN CASES OF
A DISEASE CLINICALLY RESEMBLING TYPHOID FEVER, BUT WITHOUT THE WIDAL REACTION;
TOGETHER WITH A SHORT REVIEW OF THE PRESENT STATUS OF THE SERO-DIAGNOSIS OF TYPHOID FEVER.*

By N. E. BRILL, M. D.

EVER since the discovery of the reaction of a pure culture of the typhoid bacillus when brought into admixture with the serum of a patient suffering with typhoid fever, the diagnosis in many instances of typhoid fever has been made considerably easier and more certain. Before this reaction, generally known as the Widal reaction, came into use the diagnosis of this disease was established chiefly from the clinical aspect of the case. Clinicians felt quite certain when a case presented the concomitant signs of headache, malaise, epistaxis, coated tongue, loss of appetite, continuous fever, delirium, enlarged spleen, roseola, and tympanites, with or without diarrhœa, extending over a period of more than a week, that such a case was a case of typhoid. A persistence of these symptoms would have justified such a diagnosis, and especially if the symptoms had developed suddenly and were accompanied by progressive emaciation. In fact, up to the time that the epidemic of *grippe* swept over this country all cases adhering to the above-described symptom-complex were called typhoid, or typho-malarial, or continuous fever, and, in a few instances, ephemeral fever.

After the first appearance of *grippe,* a group of cases, similar in clinical features to the type just mentioned, were called intestinal *grippe,* and taxed the diagnostic acumen of the clinician in making a differential diagnosis between it and typhoid. After the disappearance of the last epidemic of influenza from this country these cases, whenever they appeared, whether they ran a two-weeks' or a four-weeks' course, were again called typhoid fever. When the course of the disease was short—that is, when the disease lasted for a period of ten to twelve days—we were apt to designate those cases presenting such symptoms as abortive typhoid. Every summer and autumn these cases have appeared, and have, up to the present year, been diagnosticated and treated as typhoid fever.

The use of the Widal test, however, must compel us to change or modify our diagnosis, and to entertain the suspicion that many cases of what was formerly diagnosticated as typhoid fever were, in reality, not typhoid.

It is generally recognized that agglutination and inhibition of the movements of the typhoid bacilli, occasioned by the admixture of either the blood serum or a watery solution of the dried blood of a typhoid-fever patient, in the proportion of one of serum or blood to twenty or more of the bouillon culture of the typhoid germ, is the standard test of the reaction; one may then expect the agglutination and inhibition to occur within fifteen minutes. In the vast majority of the cases this reaction is immediate, so that the resultant inhibition and agglutination have already occurred before the slide, on which the test is made, can be brought under the observing eye at the microscope. In some cases, however, a few minutes are necessary after the admixture before the reaction is demonstrable. In the former case the inhibition of movement amounts to a complete arrest, and in the latter a slight, slow wriggling motion of the bacilli may be present. Both, however, are accompanied by the essential phenomenon of clumping or agglutination. When the reaction presents these features, it is called a positive reaction. Unless these results are obtained a reaction can not be called positive. Our experience with this reaction is based upon the results of an endemic of typhoid fever at the Training School for Nurses of Mount Sinai Hospital, on the cases of typhoid fever occurring in the wards of the hospital during the past year, and on cases in private practice during the same period. The blood examinations were made by the Pathologists of the institution, Dr. F. S. Mandlebaum and Dr. C. A. Elsberg, and by them alone, thus reducing the error of personal equation to a minimum. I personally observed a large number of the results of the test with these gentlemen, and in no case did we disagree as to the nature of a reaction, whether it was positive or not.

If a positive appearance of the Widal reaction, when applied with the proper culture and in proper proportion of serum to culture, be an absolute test of typhoid fever—and there is now very little reason to doubt it, as I shall soon show—the suspicion mentioned above will be fully substantiated. In my own experience of cases of typhoid fever occurring in private and hospital practice in which the Widal test was applied (numbering eighty cases during the past year) this reaction was never absent during some period of the disease or convalescence. The experience of other clinicians is similar to mine.

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* Read before the Society of Alumni of Bellevue Hospital, December 1, 1897.

The following analysis of the cases of typhoid during the past year, eighty in number, are from a report furnished by the pathological laboratory of Mount Sinai Hospital: Positive reaction in seventy-eight cases (ninety-seven and three fourths per cent.); no reaction in two cases (two and a half per cent.). Of the seventy-eight cases which gave a positive reaction, two gave a reaction on the fourth day of the disease, four on the fifth day of the disease (seven and a half per cent.); forty-four gave a reaction from the seventh to the twelfth day of the disease, twelve from the twelfth to the fourteenth day of the disease (seventy-seven per cent.); ten gave a reaction from the fourteenth to the seventeenth day of the disease, six from the twenty-fourth to the thirty-second day of the disease (nineteen per cent.).

Seven hundred and forty-two examinations were made in all, of which two hundred and twelve were for diseases other than typhoid, and the latter, with the exception of one [*] case, at no time showed a reaction. The history of this case in the hospital gave no evidence of typhoid fever. The patient was a woman in whom the diagnosis of cholecystitis was made, and who, refusing operation, was discharged. She was a stupid, ignorant woman, from whom it was almost impossible to obtain a satisfactory history of her former illness. In her case, while the presence of a previous typhoid (she had been ill three months before she sought admission to the hospital with some other illness than the one for which she was admitted) could not be established, its presence at that time can not be denied. Deducing a judgment from the experience here cited, we are justified in concluding that the positive appearance of the Widal reaction in a case of supposed typhoid is diagnostic of the presence of the activity of the typhoid bacillus in the body. It still remains to be proved whether the reaction of the serum or blood of a patient with a culture of the typhoid bacillus occurs in other diseases. A few exceptional cases have been reported, but these cases have been so rare that we may be justly suspicious that they occurred in some of the instances in patients who had previously had typhoid, or that the observations were not made by competent observers, or were based on defective methods employed by the blood examiner.

In reference to these topics Dr. Wyatt Johnson [†] says: "I wish further to call attention to the importance of paying special care to the reaction of the test-culture medium. Bouillon cultures showing, after twenty-four hours' growth of typhoid at 37° C., a slight uniform cloudiness only, and quite free from scum and sediment, offer the greatest security against pseudo-reactions. . . . Cultures which give heavy bouillon growths are the ones most liable to give pseudo-reactions—*i. e.*, to clump in a deceptive manner spontaneously or with non-typhoid blood. If the culture is too acid, the reaction may be defective. With a proper culture I have never met with the typical reaction apart from typhoid fever. On the other hand, by employing certain incorrect methods of preparing the culture, I can obtain at will very perplexing pseudo-reactions with a large proportion of non-typhoid bloods. This may be the explanation of the number of anomalous published results."

It was stated that the experience of other clinicians supported the view expressed, that the Widal reaction was diagnostic of the activity of the typhoid bacillus in the body. Let us for a moment review the published results of a few of these individual experiences.

C. Fraenkel [*] never found a reaction in any but those suffering from typhoid fever.

K. Urban [†] also found it present in all his cases of typhoid, and gives an interesting review of the work done in this field.

Perhaps the most voluminous collection of statistics as to the value of this test of typhoid fever is contained in the article published by Dr. R. C. Cabot,[‡] of Boston, who collected in various foreign and American journals the reported results of the experiences of other men. The total number of cases of typhoid fever which had been subjected to this test numbered 3,475. Of this number a positive reaction was obtained in 3,434 = 98.8 per cent. The number of non-typhoid cases examined was 1,649, of which 1,592, or ninety-six and a half per cent., showed no reaction. His own personal experience embraced 101 cases of typhoid, in which the reaction was positive in 96, and in 301 cases of other diseases, in but one of which he found the reaction.

Dr. W. H. Welch,[#] of Johns Hopkins University, also attests to the almost invariable presence of the reaction in typhoid and its absence in other diseases. He cites the statistics of Widal and Sicard of 163 cases, in which there was a positive reaction in 162; of Courmont, 116 cases, positive reaction in 116; of Chantemesse, 70 cases, positive reaction in 70; of Johnston and McTaggart, 129 cases, positive reaction in 128.

Since the above publication of Dr. Cabot's paper I have collected additional cases reported in the current journals, so that the total number of cases collected in which an examination for the reaction was made is 4,879, of which 4,781 gave a positive reaction (97.9 per cent.).

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[*] The Serum Diagnosis of Typhoid Fever. By C. A. Elsberg, M. D. *Medical Record*, April 10, 1897.

[†] Wyatt Johnson. *Circular No. 4, Laboratory of the Board of Health of the Province of Quebec*, dated Montreal, October 6, 1897.

[*] C. Fraenkel. Ueber den Werth der Widal'schen Probe zur Erkennung des Typhus abdominalis. *Deutsche med. Wochenschrift*, 1897, No. 3.

[†] K. Urban. Blutuntersuchungen bei Typhus und die Gruber-Widal Sero-diagnosis. *Wiener med. Wochenschrift*, 1897, pp. 1465, 1527, 1570, 1613.

[‡] R. C. Cabot. Clinical Report on Sero-Diagnosis. *Journal of the American Medical Association*, 1897, p. 311.

[#] W. H. Welch. Serum Diagnosis of Typhoid Fever. *Ibid.*, 1897, p. 395.

Considering this vast number of cases, and the error in diagnosis which might arise from so many examiners, the number of typhoid cases in which the reaction was not obtained is extremely small, and barely invalidates the statement that the test is an absolute diagnostic and pathognomonic sign of typhoid fever.

So generally accepted is the diagnostic test of this reaction that at a recent meeting of the American Medical Association, at Philadelphia, on August 14, 1897, the following summary of views * was expressed in the discussion of serum diagnosis: "Without being absolutely infallible the typhoid reaction appears to afford as accurate diagnostic results as can be obtained by any of the bacteriological methods at our disposal for the diagnosis of other diseases. It must certainly be regarded as the most constant and reliable sign of typhoid fever, if not an absolute test." This statement is signed by the following men, whose names are sufficient attestation of the reliability of the conclusions—namely: W. H. Welch, Wyatt Johnson, J. H. Musser, R. C. Cabot, H. M. Biggs, J. M. Swan, M. W. Richardson, and others.

Such being the generally recognized status of the Widal reaction, the question arises, How shall we classify the following group of cases, which came under my observation during the past summer, specifically during the months of July, August, and September, at no time showing the Widal reaction (this test was made daily in each), and having the following definite clinical history: A period of three to four days in which the patients complained of loss of appetite, malaise, general weakness, headache, and general body pains, succeeded in many instances by either a distinct chill or chilly sensation, and in a few by epistaxis. The patient is feverish, the temperature, as taken in the rectum, rapidly rising to 104° or even 105° F. The period of temperature rise to its acme is within five days. The morning and evening temperature of each successive day of this period being higher than that of the preceding day. On the fourth or fifth day—that is, when the patient's temperature is highest—the following objective signs are present: sensorium dull, the patient apathetic, face flushed, cheeks reddened, there being a zone of whiteness about the mouth; eyes dull and expressionless, conjunctivæ congested, the tongue in the greatest proportion of the cases moist and always furred. The fur is thick, *white*, and covers the dorsum of the entire tongue, only the edges and tip of that organ being free from the coating. There are contraction and wrinkling of the brow, owing to the intense headache of which the patient complains. The skin of the body is hot and dry; that of the back, especially over the loins, and the skin of the abdomen are covered by an eruption of rose-red papules. These papules have a diameter of two millimetres, are only slightly raised, disappear, as a rule, completely on pressure, and reappear when the pressure is removed. The papules are not numerous, are lenticular in shape, sometimes acuminated, with a minute vesicle on top, and while present both over the skin of the back, chiefly between the scapulæ, and over the loins, they are, as a rule, more numerous over the abdomen. Sometimes the eruption is absent.

The abdomen is slightly distended and tense, owing to a slight degree of tympanites. There is usually abdominal pain, but little tenderness.

The spleen is enlarged, and its free border is palpable.

The bowels, as a rule, are constipated, and can only be moved by some laxative agent. Diarrhœa is only exceptionally present.

The mental condition of the patient is disturbed. He is apathetic, he does not want to be molested, and lies in a state of drowsiness or semistupor the most of the time. When the fever is highest, toward evening, a few patients become delirious.

The pulse is full and rapid, often dicrotic.

The temperature is continuously high, with morning remissions, as a rule reaching 103° to 104° F. in the evening, and falling off two to three degrees therefrom in the morning. The temperature shows these exacerbations and remissions for ten to twelve days from the beginning of the disease, when it suddenly drops, in the large majority of cases, to normal. In a few cases it shows a steplike descent, like the typical typhoid temperature of the fourth week, the descent to normal, however, not taking more than three days. When the degradation of the temperature occurs the symptoms disappear, and the patient feels well but weak. His appetite returns, his headache has disappeared, his tympanites has vanished, he regains his mental composure, and takes acute interest in his surroundings. The bowels now move regularly and without difficulty.

During the progress of the disease emaciation has developed, and, while not as extreme as it is in true typhoid fever, it is still considerable.

One of the earliest features of this group of cases is the prostration. It appears earlier than it does in unquestionable typhoid, and is often the subject of the patient's complaints. As a rule, these patients are unable, after they take to bed, to sit up without assistance.

The urine is high-colored and scanty. When subjected to Ehrlich's diazo reaction it responds in some cases, and in others not at all. Indican was not present in excess, and was sometimes entirely absent, and acetone and diacetic acid were absent in the cases examined.

The blood showed no leucocytosis, nor any change in the red blood-cells. *Plasmodium malariæ* was examined for and not found.

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* *Journal of the American Medical Association*, p. 313.

Hæmorrhage from the bowels did not occur, nor was there any trace of blood in the stools.

None of these cases presented any complications or sequelæ.

The course of the disease was not influenced in any demonstrable manner by any plan or method of treatment. All these patients were put on a strictly fluid diet, and were plunged if the temperature remained above 104° F. for any time. The bowels of some were thoroughly evacuated, while in others no attention was paid to them. Whether the bowels were moved thoroughly or not, the course of the disease remained the same in all, nor was the severity of the attack modified.

The following are a few histories abstracted from the more detailed histories taken by the house staff of the hospital, and are here presented simply to give a general idea of the clinical picture presented by the entire group. They make no pretension as to completeness, nor do they contain all the clinical observations made from day to day during the sojourn of the patients at the hospital:

Case I.—Samuel S., aged thirty-eight years, Russian, cabinetmaker, was admitted on June 27, 1897. His family history is negative. He had gonorrhœa twelve years ago, never had syphilis, and abstains from alcohol and tobacco. Otherwise he was never ill to his knowledge.

He took to bed three days before, after complaining a few days of lassitude and inability to work. He had no diarrhœa, no epistaxis, but complained of loss of appetite and nausea. His sleep had been good. He gave no history of cardiac or pulmonary disease. His chief complaints are headache and pain in the back. General condition fair; well nourished; tongue is dry. Lungs: High-pitched note at right apex anteriorly; posteriorly, negative. Heart normal; pulse small and soft; liver normal; spleen enlarged and distinctly felt below costal margin; abdomen soft.

On admission his temperature was 102.6° F., his respirations were 24, and his pulse was 88. He was given a full bath, put on sterilized fluids, and treated as a typhoid. At 6 P. M. of this day (June 27th) his temperature was 104° F., which was reduced by a sponge bath to 103.8°, his pulse being now 82, and respirations 24. At 8 P. M. the temperature was again 104.2°, when he was given a plunge bath which reduced his temperature to 100.8°.

June 28th.—Temperature ranged from 100.8° to 104° F., at which point a plunge was given, when it fell to 99°.

29th.—Temperature was 103.8° F.; two plunge baths.

30th.—Temperature at 8 P. M., 102.8° F.

July 1st.—Temperature did not rise above 100° F. Tongue beginning to clear; no roseola has as yet been noticed either on back or abdomen. The general condition of the patient is improved.

2d.—Temperature normal; patient put on soft diet.

4th.—Patient discharged cured.

Case II.—Arnold L., admitted to my service at Mount Sinai Hospital on August 8, 1897.

The patient was thirty-one years of age, a nurse by occupation, and was born in Germany. His family history is negative. His previous history shows no venereal disease, and he indulged but slightly in alcohol.

His present history shows illness of ten days' standing, beginning with headache and pains in the legs, which continued for three days, whereupon he had to take to bed. He had entire loss of appetite, with nausea and some vomiting. His bowels had been constipated. On admission he complained of severe headache involving the entire head; it is quite continuous, with only slight remissions. Ocular pain is also complained of. General condition is fair; well nourished. His tongue is dry and coated down the centre with a white fur, red at the sides and tip. Lungs, anteriorly and posteriorly, negative. Heart not enlarged; apex beat in fifth interspace within the mammary line; slight blowing systolic murmur at the apex, but it is not transmitted. Pulse full and slightly dicrotic. Finger nails somewhat cyanotic. Liver slightly enlarged; extends from fourth interspace to one fingerbreadth and a half below the free costal margin. Spleen: Owing to the tympanites, the area of dullness is partly obliterated. The organ can not be felt. Abdomen somewhat tympanitic.

The temperature at 6 P. M. was 102.6° F., the pulse 120, and respirations were 32 per minute.

The headache is intense, necessitating the administration of a sedative. During the night the temperature ranged from 102.3° to 103° F.

On August 9th the morning temperature was 102.3° F.; the evening temperature, 103°; the pulse, 84, and the respirations, 28. At midnight the temperature had fallen to 101°.

On August 10th the morning temperature was 102.8° F.; the pulse, 96, and the respirations, 22; the evening temperature was 103.2°, which fell at midnight to 100.6°.

On August 11th the temperature was constant, there being but slight variations, and registered between 103.2° and 103.6° F.; still, at midnight, it fell to 101°.

On August 12th the morning temperature was 103.6° F. The headache is diminishing, the tongue has become moist, but it is still coated; the abdomen is soft and tympanitic, and the spleen can now be felt for the first time; the pulse is slightly dicrotic. A plunge bath was ordered, together with fifteen grains of salol, which reduced the temperature to 102.2° F. In the evening the temperature again rose to 103.2° F., the pulse being 82. At this time another plunge was given, which reduced the temperature to 101.2° F. and the pulse to 76.

On August 13th the temperature remained constantly lower, varying from 101° F. to 101.4° F. From this day on the temperature fell gradually, and on the next day, August 14th, in the morning, it became normal, 99° F., and 100° in the evening. The patient feels well, but is very weak.

On August 15th the temperature was the same as on the preceding day.

On August 16th the temperature is normal throughout, convalescence is established, all abdominal signs have disappeared, though the spleen can still be felt, but is much smaller.

On August 20th the spleen is no longer palpable. The patient was discharged on August 25th.

In this case there was at not ime a roseola. The duration of the disease was twenty days.

Case III.—Felix H., nineteen years old, born in Germany, a clerk by occupation. He was admitted to the service of my colleague, Dr. Manges, to whom I am indebted for the history. He came into the hospital on August 12, 1897, giving a negative family history. His previous history established that he had no gonorrhœa or syphilis, that he used neither tobacco nor alcohol, and that he never was ill before.

His present history is of one week's standing, and began with malaise, headache, loss of appetite, and apathy for usual employment. He had no epistaxis. He had nausea, but no vomiting; diarrhœa was also present. There were no cardiac, pulmonary, or urinary symptoms. The headache was constant. There was no abdominal pain.

The patient's general condition is good. He is well nourished. His tongue is moist and coated. Lungs normal. Heart's action slow; pulse slow, soft, slightly dicrotic, and intermittent; liver extends from fifth space to free border of ribs; spleen enlarged to percussion.

On admission his temperature was 102.8° F., his respirations were 24, and his pulse was 100. He was given a sponge bath and placed on sterilized fluids. The temperature remained above 101° F. all day.

On August 13th the pulse dropped from 100 to 52, the temperature varied between 100.6° and 99° F. The urine was acid, specific gravity 1.025, and contained no albumin. Diazo reaction was absent.

On August 14th the temperature became normal, and remained so from this time to the date of his discharge, August 21, 1897.

Case IV.—Augusta L., aged thirty-three years, born in Germany, was admitted on August 23, 1897. Her family and previous histories are negative. Her present history is of one week's standing; it began with chill and fever, previous to which there had been lassitude, weakness, malaise. No epistaxis, no diarrhœa. Appetite gone, nausea, but no vomiting. There is headache, pain in back and over spleen. No cardiac, pulmonary, or urinary symptoms. General condition is fair and she is well nourished; tongue is dry, glazed, and devoid of epithelium. Lungs anteriorly, sibilant and sonorous râles; posteriorly, similar signs. Heart negative. Pulse weak, small, and thready. Liver extends from fifth space to two fingers below free border. Spleen enlarged to percussion and readily felt. Abdomen, numerous roseolar spots. Tenderness over bladder; right kidney situated very low and readily palpable.

Vaginal examination revealed the tissues all very lax. Cervix enlarged and lacerated. Uterus is enlarged; marked leucorrhœa.

On admission the temperature was 103.2° F., the pulse was 98, and the respirations were 26. A sponge bath was given, and the routine typhoid treatment ordered. Her urine was acid and showed no pathological conditions.

On August 24th the patient's general condition is poor; the tongue is glazed and red, but not coated. There was no abdominal tenderness nor tympanites. Her spleen can be readily felt.

On August 25th the urine is acid, specific gravity 1.014, and contains no albumin; it showed eight grains and a half of urea to each ounce. Her general condition is somewhat improved. Her temperature remained quite constant throughout the day, ranging from 102.8° F. to 103.2° F.

On August 26th the morning temperature was 100.1° F.; it steadily diminished, and at 11 P. M. it reached 99° F.

On August 27th the temperature was normal throughout; the patient felt well and wanted to get up. The spleen could no longer be felt. From this time on her temperature remained normal. She was discharged on September 4, 1897.

Case V.—Abraham W., aged thirty-five years, born in Russia; occupation, tailor. The patient was admitted on August 27, 1897; the family and previous histories are negative.

Present history is of one week's standing; began with malaise and general weakness, with some fever and chills. On admission, diarrhœa; no epistaxis; appetite gone; digestion impaired. No cardiac, pulmonary, or urinary symptoms. Pain in abdomen, cramplike in nature. General condition is poor; he is fairly well nourished; the tongue is dry. Lungs anteriorly, negative, as well as posteriorly. Heart not enlarged, action slow and regular, slight impurity of second sound at apex. Pulse large, slow, slightly dicrotic. Liver extends from fifth space to free border. Spleen enlarged to percussion and very distinctly felt. Abdomen tympanitic; a number of *roseolar* spots here and on back. No œdema of legs.

On admission his temperature was 103° F., the pulse was 88, and respirations were 28. A sponge bath was given. Sterilized fluids ordered. At 5 P. M. the temperature was 103.8° F.; it came down without treatment.

August 28th.—Urine acid and clear, specific gravity 1.023; it contained a trace of albumin and a few pus cells and leucocytes. The first stool contained a little mucus.

29th.—Temperature came down gradually, and by night remained below 100° F.; the tongue was still moist and coated. Patient felt well and desired to go home.

On August 30th only a slight evening rise in temperature to 100.4° F.

31st.—Temperature was normal all day. Soft diet had been given on the 29th.

September 1st.—Full diet; no subsequent rise of temperature; patient discharged cured September 3, 1897.

Case VI.—William G., aged twenty years, born in Austria; occupation, tailor. He was admitted on August 30, 1897. The family history is negative, as is the previous history. The present history is of two weeks' standing; during the last week he has been in bed. The acute attack began after an indiscretion in diet, with nausea, loss of appetite, but no vomiting. There is no headache. Bowels have been very much constipated for some time, are liable to be so often, and then these attacks come on in aggravated form. General condition is fair; he is fairly well nourished, but anæmic; the tongue is moist and coated. Lungs, anteriorly and posteriorly, negative. Heart: area not enlarged; systolic murmur over base, most marked at second right costal cartilage; pulse tense and regular. Liver extends from fourth space to free border. Abdomen: a number of atypical rose spots here, but on back typical spots. Spleen can be felt.

On admission the temperature was 101° F.; the pulse 86. A sponge bath was given. The patient was put on sterilized fluids. The temperature rose gradually to 103.8°. Urine is acid, contains a trace of albumin, and red and white blood-cells, epithelial cells, and hyaline and granular casts, with an occasional waxy cast.

September 1st.—Temperature at 4 A. M., 100° F., but rose at noon to 103° F., and at midnight rose again to 104.4° F.

On September 2d the temperature rose at 2 P. M. to 103° F., and was 102.8° at midnight.

On September 3d the morning temperature was 101.2° F., but came down during the afternoon and evening, reaching on the following day 99.4° F., from which time it did not rise again.

On September 5th the patient's general condition was excellent, and he was put on full diet. He sat up on September 7th and was discharged on September 12, 1897.

CASE VII.—Harris F., aged twenty-four years, born in Russia; occupation, carpenter. He was admitted to my service on September 1, 1897. His family history as well as his previous history is negative. There had been no gonorrhœa or syphilis. He indulged moderately in alcohol and tobacco, and had had no previous disease.

Present history is of ten days' standing; began with general body tenderness, pain in bones and head, fever and chill; no epistaxis; no diarrhœa; severe and constant headache; general feeling of lassitude; loss of appetite; nausea, but no vomiting; some cardiac palpitation; no cough; no urinary symptoms.

His general condition is poor, but he is well nourished; tongue moist and coated, with red tip and edges. Lungs, anteriorly and posteriorly, negative. Heart, marked accentuated second aortic sound. Liver extends from fifth space to free border. Spleen is enlarged to percussion and can be felt. Abdomen, numerous roseolar spots.

On admission temperature was 102.6° F.; the respirations, 36; and the pulse, 120, and slightly dicrotic. A sponge bath was given; he was put on sterilized fluids. The temperature rose gradually, and at midnight was 104.2° F. The urine was acid and contained no albumin.

September 2d.—Temperature, 103.8° F. at 2 A. M., gradually fell to 99.6° F. at 6 P. M.

4th.—Tongue moist, heavily coated, with brown centre. Numerous roseolar spots on abdomen, disappearing on pressure, still present; no headache; complains only of feeling weak.

5th.—Put on soft diet. Normal convalescence. Temperature normal.

12th.—Patient discharged cured.

CASE VIII.—Mrs. K., twenty-nine years of age, married, born in United States, first came under my observation on September 3, 1897, when I was asked to see her in consultation with Dr. J. Brettauer. She was spending the summer in the neighborhood of a place on Long Island in which it was said a number of cases of typhoid fever had occurred. She had been operated on by Dr. Brettauer for a ruptured ectopic-gestation sac on August 21, 1897. The post-operative history was uneventful, the operation disclosing a partly ruptured tubal pregnancy of eight weeks' standing, the peritoneal cavity of the patient containing about three pints of fluid blood, which were removed, and the wound closed without drainage.

The temperature after the operation was 102.6° F. This varied for the next few days from this to 104° F., with a pulse varying from 130 to 150. From August 24th to August 27th the temperature varied from 100° to 102° F., with a pulse of constant rhythm of 98 beats. Her general condition was much improved. She took nourishment well, and the wound was entirely healed by primary union. The sutures were removed on the 27th. She was given solid food from this time on. Her morning temperature next day was 100° F., and on the 29th it was 99° F. This day she had some diarrhœa, her temperature rising in the evening to 101° F. For the next few days, up to September 2d, her diarrhœa persisted, and she complained of headache, severe in character, her morning temperature varying from 99° to 100.5° F., and the evening temperature from 101.5° to 102° F. On September 2d she awoke with extreme headache, and began to feel chilly, and at noon her temperature rose to 103.5°; pulse, 100. In the evening she was again chilly, and had a temperature of 104.5° F.; pulse, 100. On the morning of the next day she had a distinct chill, a temperature of 103.2° F., which rapidly rose to 106.3° at 9 A. M., the pulse distinctly dicrotic.

At this stage I was called by Dr. Brettauer to see the patient. She was somnolent, apathetic, and indifferent to the fact that a stranger was examining her. Her face was flushed, skin hot. Her tongue was moist and thickly coated with white fur along the dorsum. Her conjunctivæ were congested. Examination of her chest revealed nothing abnormal in the lungs and heart. Her abdomen was concealed by the bandages which, upon removal, disclosed a perfectly united wound in the middle line. The abdomen was slightly tympanitic, and the spleen was distinctly enlarged and easily palpable. The liver was not enlarged. On her back a few red papules were seen over the left scapula. They were acuminated and did not disappear on pressure. The patient was greatly prostrated and had not the strength to move. Her temperature was 104.8° F., and pulse 106. The pulse was full, soft, and slightly dicrotic. The patient was placed on fluid diet. On the next day, September 4th, I saw the patient again and found, for the first time, a distinct roseola over the loins and on the abdomen. Her symptoms otherwise were the same as on the previous day. Owing to the fact that the patient was stopping at a summer hotel I suggested her removal to a hospital, which was done on the following day.

September 4th.—Her temperature, A. M., 102.5° F.; pulse, 100; P. M., temperature, 104.5°; pulse, 98. An examination of her blood failed to reveal *Plasmodium malariæ;* there was neither leucocytosis nor diminution in the number of red cells.

After entering the hospital on September 5, 1897, her pulse was 103, her respirations were 26, and her temperature was 103.8° F. She complained of chilliness. Typhoid-fever treatment was instituted. Her urine was acid, specific gravity 1.010, with a trace of albumin and with red and white blood-cells, epithelial and fat cells, a few pus cells, a few hyaline casts, but it did not show the Ehrlich diazo reaction. Her temperature on the evening of this day was 103.2° F.

On September 6th the morning temperature was 102.5° F.; the evening, 103° F.

On September 7th the temperature in the morning was 102.2° F., pulse 106, and respirations were 24; in the evening the temperature was 103° F.

On September 8th the tongue is moist and furred; the pulse of excellent quality, though dicrotic. The spleen is still palpable. The patient's mental condition is very good. The highest temperature was 102.6° F.

On September 9th the morning temperature was 101.2° F.; the evening, 102.6° F. An ice bag was applied to the left side, where she complained of pain.

On September 10th the temperature at no time went higher than 100.4° F.; the general condition of the patient was much improved.

On September 11th the temperature in the morning reached the normal. The tongue was moist and *clean;* there was no abdominal tenderness, and the spleen could still be felt. The urine was acid, specific gravity 1.010, and was otherwise negative, excepting the presence of a few leucocytes. Convalescence was now established.

On September 14th the spleen could no longer be felt.

On September 20th she was put on soft diet, which in two days was replaced by full diet.

The Widal test, taken every day, always proved negative.

She was discharged on September 30, 1897.

At no time were there any signs of sepsis. The pelvic cavity was perfectly free, and the presence of pus, while it may have been suspected, could not be demonstrated. In fact, the nature and character of her symptoms militated against the theory of sepsis. The temperature before and immediately after the operation indicated serum absorption (from the peritoneal cavity). Her subsequent disease dated from the day on which she complained of headache and chilly sensations.

Cultures were made from the fæces of this patient and showed *colon bacilli* only.

(*To be concluded.*)

Therapeutical Notes.

How to Use Politzer's Bag.—The *Presse médicale* for December 8th gives the following directions: Blow the nose carefully to rid it of mucus. Take a little water into the mouth and hold it there for the time being. Insert the end-piece of the tube deep into the right nostril, and hold it there with the fingers of the left hand, at the same time closing the left nostril with the left thumb. Then, with the right hand, squeeze the bag vigorously at the very moment of swallowing the water. Withdraw the nose-piece before allowing the bag to expand again. The insufflation should be practised two or three times in succession.

Aseptolin in the Treatment of Malarial Fever.—The *Centralblatt für die gesammte Therapie* for December cites from *Médecine moderne* the practice of injecting six cubic centimetres of a solution of aseptolin, of the strength of from two to five per cent., along the linea alba. Half the amount may be used on the days that the patient is free from fever.

Ichthyol in the Treatment of Chyluria.—Dr. Moncorvo, Jr., of Rio de Janeiro (*Nouveaux remèdes,* December 8, 1897), reports two cases of chyluria in which recovery took place rapidly under the use of ichthyol in daily amounts of seven or eight grains, in the form of pills.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton and Company.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, JANUARY 8, 1898.

THE LITHOTOMY POSTURE IN PARTURITION.

Dr. Oscar Schmidt, of Moscow, contributes an article on this subject to the *Centralblatt für Gynäkologie* for November 27th. He says that he has made use of this posture for about eight years past, employing it while the head is in the pelvic cavity and when it is at the outlet. The patient lies on her back, lengthwise of the bed, and at the beginning of a pain two persons, usually the physician and the midwife, standing one on each side of the bed, seize the patient's legs, bend her knees to the utmost, spread them apart as much as possible, and flex the thighs on the pelvis as in the lithotomy posture, at the same time everting the toes. That one of the physician's hands which is not employed in holding a knee may make pressure upon the child's breech, and so strengthen the action of the abdominal muscles. When the pain subsides, the limbs are allowed to resume their natural posture in the bed. The author thinks the favorable effect of this procedure is demonstrable. In the case of a primipara, he says, the segment of the fœtal head that appears at the vulva during a pain is much larger than when she simply lies on her back. The difference is seen most strikingly in multiparæ when the head is in the pelvic cavity, and often very few pains with the woman in the lithotomy posture suffice to complete the birth. Almost without exception, says Dr. Schmidt, the patients take kindly to this procedure, and he has even observed, in cases in which it was an object to delay the expulsion of the child, so that he has omitted to resort to it, that the patient herself would assume the posture voluntarily during the pains, holding her knees with her own hands. He adds that since he adopted this device the occasions of his having to resort to the forceps operation, either high or low, have been reduced to a minimum, and almost without exception they have been brought about by pathological conditions.

Dr. Schmidt thinks there are several reasons why this posture facilitates the process of parturition. In the first place, he says, it increases the intraabdominal pressure, but, what is of greater consequence, it enlarges the pelvic outlet. He refers to experiments made by Walcher and others by Klein, accounts of which were published respectively in 1889 and 1891, showing that the articulations of the pelvis, especially the sacro-iliac, possessed a certain degree of mobility. With the sacrum fixed, the symphysis pubis may be moved up and down a little. The centre of rotation is situated behind and beneath the promontory of the sacrum. The authors mentioned, says Dr. Schmidt, gave their chief attention to the conjugate diameter of the pelvic inlet, as being the most important obstetrically, but Klein measured the transverse diameter also. The conjugate diameter of the pelvic outlet, says Dr. Schmidt, the distance from the tip of the coccyx to the lower border of the pubic symphysis, unfortunately, is not mentioned by them, and the same is true of the transverse diameter, the distance between the tubera ischiorum. We know, says the author, that when the symphysis sinks as much as it can the conjugate diameter of the inlet is increased; when it is raised as much as it can be, as in the lithotomy posture, that diameter is diminished. It follows as a logical consequence, he thinks, that the reverse must happen to the conjugate diameter of the outlet. Whether or not there is at the same time a greater separation of the tuberosities of the ischia, he adds, has not been directly ascertained; in only one of Klein's experiments on corpses was such an effect shown, and that to but a small extent. However, Dr. Schmidt himself believes that it does occur, judging from the fact that in cases of symphysiotomy the maximum separation of the pubic bones is obtained by resorting to the lithotomy posture. The same thing has been observed by Biermer in experiments on the dead body. The tendency of the pelvis is, therefore, to expand laterally in this posture; unfortunately, as yet no measurements of the degree of pelvic mobility in the dead bodies of freshly delivered women have been made. The pelves that Klein dealt with did not include one of a pregnant or lying-in woman, and so we may explain the fact that his observation of the comparatively small change in the conjugate diameter on changes of posture does not tally with the observations of clinicians. We are leaning more and more, says Dr. Schmidt, toward the view of the old obstetricians, that Nature makes the pelvis movable for parturition; Driver, he adds, observed the fact in three hundred lying-in women.

The lithotomy posture has been employed in labor by others. Dr. Schmidt refers to its use by Remy, who has the patient lie crosswise of the bed, and straps her thighs to her body with two bands of sticking-plaster. The author thinks his intermittent method must save the woman some discomfort. Especially in primiparæ, he says, in whom there is so often a disproportion between the size of the head and that of the vulva, compelling the physician to resort to the forceps, it can not fail to be an advantage to have at command a procedure that the patients regard as a "natural" mode of delivery. Frequently a unilateral incision answers in cases in which the forceps might do great injury to the vagina and perinæum.

EVERSION OF THE TUNICA VAGINALIS FOR THE CURE OF HYDROCELE.

What appears to be in one of its features a novel operation for the radical cure of hydrocele of the tunica vaginalis testis is described by Dr. X. Delore in the *Lyon médical* for November 28, 1897. An incision about three inches long is made in the anterior and most dependent part of the scrotum. The tunica vaginalis is exposed and rapidly enucleated with the finger through the greater part of its extent. In the case reported by the author it was manifestly thickened. After its enucleation it is incised and the testicle is turned out through the incision. Then about a third of the parietal layer of the tunica vaginalis is cut away, and what remains of it, turned inside out, is fixed behind the testicle by means of catgut sutures. The testicle is replaced in the scrotum and the cutaneous wound is closed with silver sutures, with a drain of iodoform gauze inserted at its lowest part. In the case described there was a sero-sanguinolent discharge for the first twenty-four hours. The gauze was removed at the end of the second day. The patient was kept in bed until the eighth day, when the scrotal sutures were removed and he was able to resume his work. He was examined on the twentieth day, at which time he could walk without any discomfort. There was a small mass, not painful, in the region of the everted tunica vaginalis, formed by the spermatic cord and the epididymis.

M. Delore does not profess to have been the first to treat hydrocele by incising the tunica vaginalis and turning its parietal layer inside out; indeed, he accords priority in that respect to Jaboulay, who devised the measure and first practised the operation in 1893. M. Delore seems to think, however, that the particular step of suturing the membrane together behind the testicle makes his operation a new one. He says it has passed into Lyonese practice and has just been made the subject of a thesis by M. Barral. Its merits are summed up by the author as follows: It is ideal in its simplicity; it is very easy to perform; it reduces the traumatism to the minimum; it requires only a few instruments, and those are of the commonest sort; if asepsis has been secured, there is no suppuration; the cure is radical and relapse is impossible, for there is no longer any cavity to the tunica vaginalis; and the patient regains his ability to work sooner than after other operations for hydrocele.

MINOR PARAGRAPHS.

THE LESIONS FOUND IN A CASE OF ATHETOSIS.

Sander (*Neurologisches Centralblatt*, 1897, No. 7; *Centralblatt für innere Medicin*, December 18th), gives an account of a case of paralytic dementia in which there had been repeated attacks of paralysis on the right side, with spasms more marked on that side than on the left. Finally motor disturbances of the right side occurred that were at first taken to be choreatic, but were subsequently recognized as those of pronounced athetosis, especially of the right hand. It was only during the deepest sleep that these movements ceased. After the patient's death, the left cerebral convolutions, with the exception of the occipital lobe, were found diminished in size, and this was particularly striking in the frontal and central convolutions. In addition, the left thalamus was found reduced in size and in places wholly atrophied. Sander came to no conclusion as to whether this change in the thalamus was secondary or primary, but was inclined to the latter assumption. It is very seldom, he says, that so decided a lesion of the thalamus is found even in the severest cases of cortical paralytic processes. He thinks that, at all events, it had a share in producing the athetosis.

THE NEW CITY HEALTH BOARD.

So far as we are able to judge, the newly appointed members of the New York city board of health are well fitted for their duties. The president, Mr. Straus, is well known for his energy and broadmindedness in promoting the welfare of the people, particularly the poor. We believe, moreover, that he is not the man to favor the outrageous commerical proclivities of some of the preceding boards, as shown in the sale of vaccine virus and antitoxines in unfair competition with private enterprise; and this is a matter of great importance. Dr. Jenkins's record as health officer of the port seems a sufficient guarantee of his fitness for his new office. We are not aware that Dr. Cosby has held public office before, but that fact does not lead us to fear that he will in any way prove unequal to a creditable performance of the functions of a health commissioner.

THE *PHILADELPHIA MEDICAL JOURNAL.*

The first number of this new journal, dated January 1, 1898, has been received at this office. We like it. We like its appearance, its contents, and above all its tone. It is most creditable to those gentlemen who have it in charge; in particular we wish to congratulate the editor, Dr. George M. Gould. The arrangement of the contents is unusual; first we find a number of short articles under the heading of Editorial Comment, then a selected article, then American News and Notes, Foreign News and Notes, and Philadelphia News and Notes. This brings us to a notable feature entitled The Latest Literature, in which are given the titles and names of the authors of all the original articles that appeared in the *Lancet* and the *British Medical Journal* for December 18th, the *New York Medical Journal*, the *Journal of the American Medical Association*, the *Medical News*, and the *Medical Record* for December 25th, the *Boston Medical and Surgical Journal* for December 23d, and the *Johns Hopkins Hospital Bulletin*, the *Annals of Surgery*, and the *American Journal of the Medical Sciences* for December. Summaries are given of most of those articles. Last of all come the original articles. They are Post-typhoid Fever, by Dr. J. M. Da Costa, of Philadelphia; A New Incision for Arthrectomy, etc., of the Shoulder Joint, by Dr. N. Senn, of Chicago; On Some of the Intestinal Features of Typhoid Fever, by Dr. William Osler, of Baltimore; On the Use of the Gigli Wire Saw to Obtain Access to the Brain, by Dr. W. W. Keen, of Philadelphia; An Abstract of the Morbid Anatomical Findings in Four Cases of Epilepsy, by Dr. A. P. Ohlmacher, of Gallipolis, Ohio; and A Unique Trophy of War, by Dr. W. F. Arnold, of the navy. The new journal deserves to be sustained, and undoubtedly it will be.

THE SANITARY VALUE OF SINGING.

Dr. Barth, of Köslin (*Archiv für Laryngologie*, v; *Deutsche Medizinal-Zeitung*, November 15, 1897), has made a study of the effects of singing on the action of the lungs and heart, on diseases of the heart, on the pulmonary circulation, on the blood, on the vocal apparatus, on the upper air-passages, on the ear, on the general health, on the development of the chest, on metabolism, and on the activity of the digestive organs. Singing, he maintains, is as good as any other form of gymnastics, and it has the advantage that it can be practised anywhere or at any time, and without using special apparatus.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 4, 1898:

DISEASES.	Week ending Dec. 28.		Week ending Jan. 4.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	16	6	13	7
Scarlet fever	180	14	208	17
Cerebro-spinal meningitis	1	0	0	0
Measles	278	8	302	8
Diphtheria	164	29	167	26
Croup	6	2	3	0
Tuberculosis	192	100	142	119

The Central Texas Medical Association.—The ninth semiannual meeting will be held in Hillsboro, on Tuesday and Wednesday, January 11th and 12th, under the presidency of Dr. W. C. Blalock, of Kosse. The programme includes the following papers: Nervous Reflexes; their Causes, etc., by Dr. W. F. Cole, of Waco; Wounds of the Cornea, by Dr. D. E. Seay, of Dallas; A Report of Cases, by Dr. R. E. Moss, of San Antonio; Systemic Remedies in Eye Diseases, by Dr. S. W. McJunkin, of Dallas; Leucocythæmia, by Dr. J. S. McLain, of Washington, D. C.; Asthma; its Causation and Treatment, by Dr. J. W. Hunter, of Waco; Croup; its Pathology and Treatment, by Dr. J. M. Martin, of Massey; Yellow Fever, by Dr. J. J. Roberts, of Hillsboro; Septic Infection following Incomplete Abortion, by Dr. F. B. MacRae, of Temple; Gonorrhœa in Women, by Dr. J. M. Frozier, of Belton; Puerperal Septicæmia, by Dr. B. H. Vaughan, of Hillsboro; Fibroid Tumors of the Uterus, by Dr. A. E. Spohn, of Corpus Christi; A Clinical Report of Three Cases, by Dr. W. A. Wood, of Hubbard City; Abdominal Section in the Country, by Dr. S. M. Jenkins, of Summer's Mill; Some Cases of Fracture below the Knee, by Dr. William R. Blailock, of McGregor;

The Early Diagnosis and Treatment of Osteomyelitis, by Dr. E. C. Gordon, of Lott; Aseptic and Antiseptic Surgical Technics in Private Houses, by Dr. A. C. Scott, of Temple; Laparotomy for Bowel Obstructions, with a Report of Six Cases, by Dr. T. J. Hubbert, of Hico; and Reports of Cases, by Dr. J. C. J. King, of Waco, and Dr. W. H. Cummings, of Hearne. A surgical clinic will be held by Dr. William R. Blailock and Dr. M. D. Knox.

The New York Academy of Medicine.—At the last regular meeting, on Thursday, the 6th inst., the following papers were to be read: Clinical Observations on Malaria and its Treatment, by Dr. Beverley Robinson; and Clinical Observations upon the Heart and Circulation in Diphtheria, by Dr. Henry Dwight Chapin.

At the next meeting of the Section in General Surgery, on Monday evening, the 10th inst., the following papers will be read: A Few Remarks on the Best Way of Administering Schleich's Solution for General Anæsthesia, with Demonstration of the Mask, by Dr. Willy Meyer; and The Asch Operation for Deviation of the Cartilaginous Sæptum, with a Report of Two Hundred Cases, by Dr. Emil Mayer. Patients will be presented by Dr. A. L. Fisk, Dr. Ramon Guitéras, and Dr. H. Lilienthal.

At the next meeting of the Section in Genito-urinary Surgery, on Tuesday evening, the 11th inst., Dr. Ramon Guitéras will read a paper on the Treatment of Syphilis, and cases will be reported. Dr. James Pederson will present patients, and exhibit specimens and new instruments.

At the next meeting of the Section in Pædiatrics, on Thursday evening, the 13th inst., the following papers will be read: A New and Rapid Method of Determining the Absolute Amount of Fat in Mother's Milk, by Dr. Emily Lewi; Some Practical Points in the Management of Hernia in Infancy and Childhood, by Dr. William B. Coley: and Strangulated Hernia in Infants, with a Report of a Second Case successfully treated by Operation, by Dr. Charles N. Dowd.

The Boston Medical Society.—At a meeting held on January 1st the subject of abuses in the hospitals and dispensaries was discussed by Dr. S. Goodman, Dr. F. F. Whittier Dr. N. M. Goodman, Dr. Gustavus Liebman, Dr. F. J. Kelleher, Dr. Philip Losnowski, and Dr. A. Rovinsky. Papers on the same subject were read by Dr. R. K. Noyes, Dr. Charles F. Parker, and Dr. M. Gerstein. The last-named gentleman dwelt on the abuses in the lying-in hospitals. A committee of five was appointed to report at the next meeting on the ways and means of ameliorating the present condition. Dr. Gerstein presented a bill, to be introduced in the next legislature, and it was referred to the committee on medical abuses. Officers for the ensuing year were elected as follows: President, Dr. Samuel Goodman; vice-presidents, Dr. Rufus K. Noyes and Dr. Francis J. Kelleher; secretary, Dr. Morris Gerstein; treasurer, Dr. Victor Bychower; and directors, Dr. N. M. Goodman, Dr. Charles F. Parker, Dr. A. Rovinsky, Dr. L. B. Bernard, Dr. J. J. Hanley, and Dr. H. P. Lesnard.

The Medical Society of the City of New York.—According to the *Brooklyn Medical Journal*, a society with this title has been formed, which is to be composed of the executive officers of the several county societies included within the new city. Dr. A. M. Jacobus has been elected president, and Dr. William Browning, secretary. Among the objects of the society will be the correction of the dispensary abuse, the protection of professional interests in all the boroughs, and a co-operation with the authorities in matters pertaining to the public health. Our contemporary remarks that the mere existence of such an organization will tend to keep the profession in touch with municipal and State affairs.

The St. Louis Laryngological and Otolcgical Society was formed on December 27, 1897. It is composed of those physicians of St. Louis who limit their practice to the treatment of diseases of the nose, throat, and ear. Dr. J. C. Mulhall was elected president; Dr. J. B. Shapleigh, vice-president; Dr. F. M. Rumbold, secretary; and Dr. A. S. Barnes, Jr., treasurer, for the year 1898. Meetings will be held monthly, and it is expected that the scientific programmes will be highly interesting and instructive. While the membership is limited, the privilege of inviting professional friends is reserved to each member.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Medicine, on Tuesday evening, the 4th inst., the following papers were to be read: Pulmonary Disturbance in Children and Infantile Asthma, by Dr. Irving M. Snow; and The Diagnosis of Empyema, by Dr. Eugene A. Smith.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 26 to December 31, 1897:*

Koerper, Egon A., Major and Surgeon, is granted leave of absence for one month, to take effect on or about January 4, 1898, with permission to apply for an extension of two months.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers for the Seven Days ending December 23, 18 7:*

Carter, H. R., Surgeon. To rejoin station at Chicago, Ill., temporarily. December 20, 1897.

Nydegger, J. A., Passed Assistant Surgeon. Granted leave of absence for seven days from January 1, 1898. December 20, 1897. Upon expiration of leave of absence to report to commanding officer at New Orleans, La., for temporary duty. December 20, 1897.

Clark, Taliafero, Assistant Surgeon. To proceed, on or about January 2, 1898. to South Atlantic Quarantine Station, and assume temporary command of service. December 20, 1897.

Society Meetings for the Coming Week:

Monday, *January 10th:* New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); Lenox Medical and Surgical Society, New York (private); Harlem Medical Association of the City of New York; Gynæcological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society (private).

Tuesday, *January 11th:* New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); Buffalo Academy of Medicine (Section in Medicine); New York Obstetrical Society (private); Kings County, N. Y., Medical Association; Medical Societies of the Counties of Broome (quarterly—Binghamton), Chenango (annual), Clinton (annual—Plattsburgh), Erie (annual—Buffalo), Genesee (semiannual—Batavia), Greene (quarterly), Jefferson (annual—Watertown), Livingston (semiannual), Madison (semiannual), Oneida (quarterly—Utica), Ontario (quarterly), Oswego (semiannual—Oswego), Rensselaer (annual), St. Lawrence (annual), Schenectady (annual—Schenectady), Schuyler (annual), Steuben (semiannual), Tioga (annual—Owego), Wayne (semiannual), and Yates (semiannual), N. Y.; Newark (private) and Trenton, N. J., Medical Associations; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Norfolk, Massachusetts, District Medical Society (Hyde Park); Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery; Boston Medical Society.

Wednesday, *January 12th:* New York Pathological Society (annual); New York Surgical Society; Society of the Alumni of the City (Charity) Hospital; American Microscopical Society of the City of New York; Medical Societies of the Counties of Albany, Dutchess (annual—Poughkeepsie), and Seneca (semiannual), N. Y.; Tri-States Medical Association (Port Jervis), N. Y.; Pittsfield, Massachusetts, Medical Association (private); Hampshire, Massachusetts, District Medical Society (quarterly—Northampton); Worcester, Massachusetts, District Medical Society (Worcester); Philadelphia County Medical Society; Kansas City, Missouri, Ophthalmological and Otological Society.

THURSDAY, *January 13th:* Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society (annual—election); Medical Societies of the Counties of Cayuga and Fulton (annual—Johnstown), N. Y.; South Boston, Massachusetts, Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, *January 14th:* New York Academy of Medicine (Section in Neurology); Yorkville Medical Association, New York (private); Brooklyn Dermatological and Genito-urinary Society, New York (private); German Medical Society of Brooklyn, New York; Medical Society of the Town of Saugerties, N. Y.

Births, Marriages, and Deaths.

Born.

LEWIN.—In Buffalo, on Wednesday, December 15, 1897, to Dr. and Mrs. William Costigan Lewin, a son.

Married.

COX—OVERTON.—In Clinton, Louisiana, on Wednesday, December 29, 1897, Dr. T. F. Cox, of Brenham, Texas, and Miss Berenice Overton.

JEFFERIS—WALKER.—In Chicago, on Wednesday, December 1, 1897, Dr. B. Grant Jefferis and Miss Alice A. Walker.

MIGHELL—CLARKE.—In Hartford, Indiana, on Saturday, December 25, 1897, Dr. Norman E. Mighell and Dr. Lola D. Clarke, both of Marshalltown, Iowa.

SANDERS—KEYTON.—In Eastabutchie, Mississippi, on Thursday, December 23, 1897, Dr. William H. Sanders and Miss Mamie Keyton.

WALDRUP—LINDSEY.—In Sandersville, Mississippi, on Sunday, December 26, 1897, Dr. Major W. Waldrup and Miss Lulu Lindsey.

Died.

COY.—In Turner's Falls, Massachusetts, on Tuesday, December 28, 1897, Dr. Erastus C. Coy, in the sixty-sixth year of his age.

HEUEL.—In New York, on Tuesday, January 4th, Dr. Franz Heuel, in the eightieth year of his age.

LANIER.—In Columbus, Mississippi, on Sunday, December 26, 1897, Dr. R. E. Lanier.

PRESTON.—In Schuylerville, N. Y., on Sunday, January 2d, Dr. John R. Preston, aged eighty-eight years.

RICHARD.—In New York, on Monday, January 3d, Miriam Blath Richard, wife of Dr. Montrose R. Richard.

Obituaries.

FRANZ HEUEL, M. D.

DR. HEUEL, one of the oldest and best-known German practitioners in the city, died at his residence, No. 302 East Twenty-first Street, shortly after noon on Tuesday, January 4, 1898. Dr. Heuel was born in Prussia, Germany, on August 4, 1818, and was a student in the University of Berlin. He took part in the German revolutionary movement in 1848, and as a consequence was forced to flee to this country in that year. He remained in New York ever after that. He also graduated from the New York Medical College in 1854.

After completing his studies in the medical college he went into private practice, and afterward distinguished himself by heroic conduct in the cholera epidemic in the fifties, when he treated many of the sufferers without pay and exposed himself to danger without hesitation. He was afterward for a time a medical inspector of the board of health, but relinquished the post many years ago. He leaves two sons, Dr. Franz Heuel and Dr. Emil Heuel, both practitioners of this city, also two daughters.

Letters to the Editor.

THE QUESTION OF SENSORY FIBRES IN THE HYPOGLOSSAL NERVE.

NEW YORK, *January 2, 1898.*

To the Editor of the New York Medical Journal:

SIR: In the last number of the *Journal* Dr. S. J. Meltzer takes exception to the following passage contained in my article, Notes on a Case of Traumatic Injury of the Pneumogastric, Hypoglossal, and Sympathetic Nerves: "The sensation of the tongue was perfectly normal in regard to touch, pain, and temperature as well as to taste. This is in accordance with all other observations of hypoglossal disease, so that Lewin's theory that the hypoglossus contains sensory fibres may be definitely considered as disproved."

Dr. Meltzer says that Lewin's article to which I referred contains a clinical and an experimental part, and that he (Dr. Meltzer) was responsible for the latter, as he had made the experiments and formulated the conclusions. Lewin's theory, however, is not based solely on these experiments, but not less on the clinical evidence for which Dr. Meltzer claims no responsibility, and it is the clinical conclusion of Lewin which I think has been disproved by other observations.

Lewin describes a case of hemiplegia of the tongue in which, besides the paralysis, there were sensory disturbances in the corresponding half of the tongue, although the post-mortem examination revealed only an affection of the hypoglossal nerve immediately below its entrance into the anterior condyloid foramen. It was on account of these sensory disturbances that Lewin proposed the theory that the hypoglossus contains sensory fibres, and he tried to support this theory by experimental investigations. In view of this fact, I do not quite understand Dr. Meltzer's remark that "A case with normal sensibility and injured hypoglossus does not even affect this theory in the least." If the sensory fibres of the hypoglossus are, as Dr. Meltzer maintains, so few that their destruction would not produce any noticeable change in the sensibility of the tongue, how was it that in Lewin's case there were very marked sensory disturbances? In fact, Lewin's case has remained unique; there is no other case on record of isolated hypoglossal disease with sensory disturbances. I think it is not difficult to find an explanation for the sensory symptoms in Lewin's case. According to his statement, there were several gummata at the root of the tongue, and it is therefore much more likely that the sensory disturbances were due to compression of the lingual nerve and not to hypoglossal disease.

As to the experiments of Dr. Meltzer, he states in his letter to the editor of the *Journal* that the sensory fibres of the hypoglossus join the trunk at a point peripheral to the division and by way of the descending branch. This, of course, would be considerably below the superior cervical ganglion, the seat of the lesion in my case. In the original communication of Lewin, however, it is maintained in No. 8 of the conclusions that fibres from the lingualis run with the hypoglossus up to the point at which it emerges from the anterior condyloid foramen, and in No. 10 that, in addition to these, other sensory fibres join the hypoglossus immediately after it leaves the cranial cavity.

I fully appreciate the scientific value of Dr. Meltzer's experiments and do not profess to disprove the direct result. But I can not agree to his conclusion that the existence of sensory fibres in the human hypoglossus is no longer a theory, but a fact. In the first place, a certain element of doubt must adhere to conclusions based on experiments in which the existence of sensory nerve-fibres is determined by means of reflex action in anæsthetized animals, and, in the second place, the animal experiment can be applied to man only *cum grano salis,* especially when we have to deal with an organ of sense, like that of taste in the dog, where the assumption of a mechanism differing from that in man would not be unreasonable. Animal experiments can only be utilized for human physiology so far as their results are in harmony with clinical experience.

From general clinical observations, of which my own form only a small part, I come to the conclusion that I have to agree with those authors, like Erb, Bernhardt, and others, who consider the hypoglossus a purely motor nerve which has nothing to do with the sensibility of the tongue.

William Hirsch, M. D.

A PLEA FOR PROTECTION OF OUR GRIPMEN AND MOTORMEN FROM THE INCLEMENCIES OF THE WEATHER.

955 Madison Avenue, New York, *January 1, 1898.*

To the Editor of the New York Medical Journal:

Sir: At Christmastide it is not infrequent that one has an opportunity to ride on the front platform of the densely crowded cable or electric cars. Under ordinary circumstances this is against the rule, and if there is the least bit of standing-room in the interior of the car one is politely requested by the motorman to step inside; but when there is really no room for even one more to stand inside, to stand on the back platform, or to hang on the outside of it, then the usually good-natured motorman or gripman allows his airy place to be shared by as many passengers as may find room behind or beside him, so long as he has yet space to perform his arduous duty at the motor or grip. When it is warm one really enjoys this privilege, but on cold, windy, or stormy days, or perhaps during a blizzard of more or less magnitude, to be compelled to stand for any length of time on the front platform of a cable or electric car means quite a torture to the ordinary mortal. Under such conditions he will anxiously watch for a passenger to get off, so that he may squeeze into the inside of the car and get thawed out. So, by and by, even the most crowded of front platforms will become deserted, whenever the weather is the least unpleasant. Only the motorman or gripman must remain; he can not desert his post. He has to face the coldest wind, the fiercest rain, the blinding snow. Why must this be?

In many cities of the West, and especially in San Francisco, a city well known for its excellent cable system, the gripman stands on his platform protected from the weather, like a pilot on a ferryboat. He can lower his window when the day is mild, and can protect himself, by raising it, against the inclemency of the weather, which in San Francisco is certainly never so severe as with us here in New York. Would the eye not be more watchful if protected from blinding rain and wind? Would the hand not be firmer when less exposed to the fierce cold? And even we inside passengers would welcome the inclosure of the front platform, for the draft entering whenever the door is opened would thus be materially lessened.

Let the medical profession and the press interest themselves in this matter, so that a speedy provision may be made for this much-needed protection of the health of our motormen and gripmen. If the matter is rightly presented to them, the directors of the Metropolitan Traction Company will not hesitate to follow a suggestion whereby their most hardworked employees will be protected from the possibility of becoming seriously ill, and at the same time made better fit to perform their duties in this most responsible position. Let the Metropolitan Traction Company give this improvement to their brave motormen and gripmen as a New Year's gift. I am sure they will be thankful, and so will be all the passengers. Greater New York must not be behind other cities in anything which tends to lessen the hardships of any of its citizens.

S. A. Knopf, M. D.

NATIONAL LEGISLATION ON SANITATION.

Milwaukee, *December 29, 1897.*

To the Editor of the New York Medical Journal:

Sir: In an editorial in the last issue of your valuable *Journal* there appears the following statement: "The American Public Health Association bill seems to us a retrograde measure. It would involve a departure from all existing methods of departmental work. It would create, to stand between the executive of the department and the management of an epidemic, a deliberative body of forty-five men whose opinions would have to be had before action could be taken."

Permit me to state that this is not the meaning or intent of the measure at all. It is intended that rules and regulations can be made by the department concerning which every State and Territory can have a voice, the only satisfactory way such rules and regulations can be adopted, and that such rules shall be standing provisions under which the head of the department can act at any moment when occasion occurs and without any delay whatever. No other bill thus far presented does more than provide for quarantine regulations, and such regulations are to be under the entire control of the Marine-Hospital Service. States are to have no voice in the matter, but must submit to the federal government. There are no provisions in any measure presented, except the bill presented by the American Medical Association and approved by the American Public Health Association at its last meeting, that provides in any way for internal sanitation, vital statistics, etc., so much needed, and which are far more important than the maritime quarantine provisions, which are but a small part of the needed sanitary legislation in this country. To say that the bill is retrograde seems to the writer to result from a very imperfect understanding of the measure. It is true that the bill as printed contains a number of errors and is more or less ambiguous in its language. A new draft of the bill is being made, and when it is introduced into Congress it will present a clearer meaning and we trust will be less objectionable.

U. O. B. Wingate, M. D.

Proceedings of Societies.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Meeting of October 13, 1897.

The President, Dr. Brooks H. Wells, in the Chair.

(Continued from volume lxvi, page 844.)

An Automatic Ligature Passer.—Dr. E. Pierre Mallett presented an instrument which he called an "automatic ligature passer." It consisted of two blades, and resembled a double tenaculum or bullet forceps. The ligature was placed in a groove in the lower blade, which was blunt, and intended to be placed behind the pedicle or tissue to be ligated, while the upper, or piercing blade, was sharp, like a Peaslee needle, and contained a small barb which, on passing through the pedicle caught and, upon opening the instrument, pulled the ligature through after it. The instruments used in passing ligatures were the Cleveland ligature passer and the Peaslee or Du Champ needle. Both of these instruments required the services of a more or less trained assistant, in the one case to insert the ligature in the grasp of the passer, and in the other to extract the ligature from the eye of the needle; while, with the instrument he showed, the ligature was passed automatically, like the thread of the sewing machine. It was perfectly simple, and could not get out of order. It could carry different sizes of ligatures, from the finest to the No. 5 catgut, and could be made to carry larger sizes if desired. He had used it that afternoon in a case of double salpingo-oophorectomy, and had been enabled to ligate through a very small incision and with very little traction upon the diseased organs, points of considerable importance in abdominal work. He also thought it would prove useful in vaginal hysterectomies, in which operations he had successfully used it. One criticism he made himself upon this, the first instrument, was that its blades were a little too wide; in future they would be made smaller and narrower.

The advantages he alleged for it were:

1. The rapidity with which ligatures could be passed with it.
2. No assistant was necessary; the operator passed the ligatures entirely by himself.
3. The ease with which ligatures could be passed deep in the pelvis or in inaccessible places.

Dr. Alvah M. Newman asked whether the instrument would work every time. During the summer he had seen two or three cases where it had failed. It was very ingenious if it would work, but if a man started with it and had to substitute the Peaslee needle or the Cleveland ligature passer, he might as well start with either one at the beginning. With these other instruments it was absolutely necessary to have an assistant; with this a man did the work himself, and if it could be perfected it was a very valuable instrument for abdominal and vaginal work.

Dr. W. L. Baner asked if it ever cut the thread.

Dr. Mallett said no. Dr. Hanks had used it very successfully the other day. It could be modified so that one could use a very large thread.

Dr. Bissell asked if one could use all sizes of catgut with the same needle.

Dr. Mallett said that one could use all sizes, and the reason for that was that the slot went down into a V, and at a little angle, so that either a large or small catgut could be used.

Dr. Bissell asked if it was possible to cut the thread.

Dr. Mallett stated that that danger was obviated by making the slit plain on that side; it did not touch the thread at all; the cutting side was underneath.

Dr. Rupp presented a specimen. It had been taken from a boy twelve years and a half old, who had been operated on six months before. The boy had come home from school in the afternoon complaining that in going to school in the cars he had felt a sudden pain, and the pain had kept up so that the teachers had excused him from his recitation. In the afternoon, when he came home, the speaker had examined him, and had found a tenderness in the right iliac region, but he had had very little fever; his temperature had been only 100.5° in the rectum. The temperature had remained low up to the third or fourth day of the disease, then it had skipped up to 102°, and the symptoms in the inguinal region had been increased, but the area of tenderness had not, the fever having gone up. The next day, Saturday, the temperature had been almost normal, but on the following day, Sunday night, the temperature had gone up in the evening to 103.5°, with symptoms of septicæmia. The speaker had then called in a surgeon, Dr. Frederick Lange. The day of the operation the temperature had been 102.5°. The temperature had been almost normal one hour after operation. The boy had been on the operating table two hours, because it had been difficult to get at the abscess, and great care had been exercised to prevent peritoneal infection. There had been half a teacupful of pus; the appendix had ruptured at the middle portion, and when the appendix had been slit open it had been found diphtheritic, and had contained a fæcal stone. The boy had had an attack of catarrhal appendicular inflammation eight months before. This case showed that, although the general symptoms might be mild, the local symptoms might be bad. Dr. Lange had kept the wound open as long as he could. The boy had been in bed seven weeks and was all right now, with no signs of hernia.

Since this boy had been operated on the speaker had had two cases. In one case the limping had been well marked, that of a young athlete of nineteen, who had been in many walking matches. He had been well in two weeks and without any operation. Another, a child, had had a temperature as high as 104.5°. The parents would not consent to an operation, and after two or three weeks the boy had five or six stools in succession, and in these stools there had been pus, the abscess being evacuated through the bowel. At the same time the boy had had scarlatina, and had recovered from both.

Dr. D. E. Walker said he agreed with the previous speaker that temperature in these cases could not be taken as a guide, because in some of the worst cases the temperature would not run over 100°. He thought the other symptoms much more important than the temperature. One very frequently saw a temperature of 103° in cases of a mild type.

Dr. Bissell said he agreed entirely with the previous speaker about the temperature; he did not think it any guide at all. The guide to him was the condition of the pulse as well as the length of time in which the patient had been sick, as was also vomiting and the patient's general condition. As to operation, he must confess he had not yet any well-marked symptom on which to decide whether or not to operate. He often preferred to let the patient or the patient's friends decide, and would operate if they insisted. There were very often cases in which, if let alone, the abscess might rupture into the gut, and other cases in which, in spite of the high temperature, resolution would take place, or it might even open behind, in the posterior iliac region, and recovery take place without operation.

Dr. Muzzy asked what it was that decided them to operate, when they did not depend on the degree of fever. Was it the length of the attack, the dancing of the temperature, or what? He asked how far the symptoms of pain entered in.

The President said it was a well-recognized fact that in all peritoneal inflammations temperature was a very uncertain guide. There might be a severe general peritoneal infection with a subnormal temperature; or there might be slight localized infection with a high temperature. He thought the pulse and the patient's general condition the best guide; when the action of the heart became rapid and weak and prostration was increasing, we should be ready to operate. Pain was also a very uncertain symptom. The pain at the beginning might be very severe. The sudden cessation of the pain was always a symptom of danger; it often meant perforation or rupture of an intraperitoneal abscess, as in a case he had seen the latter part of July. The patient, a young man, had lived in the country and for four days before had had a slight stomachache, thought he had a little malarial trouble and indigestion, and had had a certain amount of pain that he had localized over the region of the appendix. It had not been severe enough to cause him to call in a physician. So far as the speaker could find out, he had had no fever, no chill, nothing out of the way except this slight pain and general feeling that he was not well. In getting off the train at the Grand Central Depot he had stepped rather heavily, and the pain had disappeared; but within an hour after that he had begun to look badly, gray and ashy, and his father had sent for the speaker. When he saw the man he had been lying on a sofa; pulse, 120; there had been a pinched, drawn expression of the features; there had been no distention of the abdomen, but the right rectus muscle had been as hard as a board. The temperature had been 98.8° F. There had been only slight tenderness over the whole abdomen; nothing except this sudden shock, the rapid pulse, great depression, and the boardlike muscle. The diagnosis had been made of inflammation of the vermiform appendix with perforation. The man had been transferred at once to hospital, operated on, and the diagnosis verified. Dr. Christian Fenger, of Chicago, had published a paper some years ago in which he had given the statistics from his own experience, and compared the number of cases which required operation and the number of cases which did not, and, according to his own experience and those of others, over seventy per cent. got well without operation. The trouble was that it was a treacherous disease. In a case of it one must always think of the possible necessity for operation, and both physician and patient must always be prepared for it.

Dr. Walker spoke of three cases which he had seen in the last three months that had been similar. One case had been seen by three physicians. There had been doubt as to the diagnosis in all the cases, but the patients had all had symptoms of appendicular inflammation; the pain in all had been located rather high, a little above the iliac region. All three had had a temperature from 102.5° to 103° F., and remaining above 100° F. for several days. In all three the pulse had remained good, and the general condition and appearance had been good. In view of the good general condition it had been determined to await developments. They had all got well without further symptoms of trouble. He thought the only way in which a positive diagnosis could have been made was by opening the abdomen.

Dr. Mallett said, about the statistics quoted by the chairman, that no note had been made of the number of attacks the patients had had. Presumably they had been primary cases, and it did not by any means follow that these people were cured. Within the last two months he had had three cases in which he had found the appendix had been the seat of inflammation while he was operating for other conditions. It only went to show that in all these cases the patients never had been perfectly well, and at any time would be likely to have a recurrence. Dr. Morris laid great stress on that point, and had endeavored to get statistics on the number of subsequent attacks these "cured" patients had suffered from.

(To be concluded.)

AMERICAN NEUROLOGICAL ASSOCIATION.

Twenty-third Annual Meeting, held in Washington, on Tuesday, Wednesday, and Thursday, May 4, 5, and 6, 1897.

The President, Dr. M. Allen Starr, of New York, in the Chair.

(Continued from volume lxv, page 741.)

Purulent Primary Spinal Leptomeningitis.—Dr. Frank R. Fry, of St. Louis, reported a case. Bacteriological examination has shown the infection to be purely purulent. The source of it was a slight but rather chronic formation of boils on the back of the neck. The patient was twenty-seven years of age, a house servant. The site of primary infection was the lumbar or lower dorsal region. The clinical history was that of an ascending paralysis with certain interesting features as to temperature, etc. There was no cerebral involvement. Sections of the cord were presented, chiefly interesting as showing diffuse degeneration in the cervical and upper dorsal regions.

Auditory Aphasia was the title of a paper by Dr. Howell T. Pershing, of Denver. He said that auditory aphasia was the sum total of speech defects due to a lesion of the auditory centre for words; it was a more precise term than sensory aphasia and more comprehensive than word-deafness. He reported a case in which the symptoms were word-deafness, verbal amnesia, jargon paraphasia, paralexia, loss of comprehension of print, and agraphia, with retention of ability to copy Roman letters into script and with no visual defect whatever. The impairment of all ways of using language so often observed as a result of an auditory lesion was explained as due to the fact that the auditory centre was normally active in spontaneous speech, reading, and writing, as well as in the comprehension of speech.

Dr. W. T. Worcester, of Danvers, Massachusetts, reported three autopsies in patients with sensory aphasia. There were softening and atrophy of the left first temporal convolution. He also mentioned a case of subcortical aphasia. The patient could not speak and had no comprehension of spoken language. He had right hemiplegia. Softening of the external capsule and lenticular muscles was found at the autopsy.

Dr. Philip Zenner, of Cincinnati, referred to a case with frequent attacks of word-deafness and spasm of the right side of the tongue and face. At the autopsy a tumor was found in the lower part of the Rolandic fissure resting upon the first temporal convolution.

Dr. Charles K. Mills, of Philadelphia, agreed with Dr. Pershing, and said that in such cases all forms of language might be affected.

Dr. Collins said that the auditory centre was localized in too small an area. The speech area was purely a sensory one. There is only one variety of aphasia, and that was sensory.

Dr. Pershing said that he had attempted in his paper to combat the views expressed by Dr. Collins.

Syringomyelia.—Dr. Hugh T. Patrick, of Chicago, reported the following case: A man of forty-four years began to be weak in the legs ten years before, which weakness gradually increased until he walked with difficulty. A year ago the hands also began to be affected. Examination showed spastic paraplegia with weakness of the grasp and slight atrophy of the small muscles of the hand. The sensory symptoms were the most interesting. There was a band of anæsthesia about the trunk and extending on to the inner surface of the arms; an area of analgesia covered this and extended beyond it about four inches on the trunk and two inches on the arms. This distribution of sensory blunting was exactly the same as that which had been described by Laehr and the author as occurring in tabes, except that in the latter disease the band of analgesia was much narrower than that of anæsthesia.

So-called Polioencephalitis Superior and Inferior.—Dr. Patrick reported the case of a woman of thirty who was attacked with bulimia, following which complete external ophthalmoplegia and incomplete bulbar paralysis developed. She died of respiratory failure about two months after the beginning of the disease. The autopsy revealed nothing. Microscopic examination showed all the arterioles and capillaries of the bulbo-pontine region to be enormously distended. Other signs of inflammation were absent; there was no degeneration of fibres, and the cells of the various nuclei were all normal. The author considered the case to be one of transition between the so-called acute polioencephalitis and poliomyelitis on the one hand and so-called asthenic bulbar paralysis on the other. He thought the disease essentially toxic, and suggested as a therapeutic measure the so-called "washing of the blood," copious bloodletting with simultaneous infusion or subcutaneous injection of salt solution.

Focal Cord Lesions.—This was the title of a paper by Dr. F. W. Langdon, of Cincinnati. Two cases were reported: 1. *Lumbar poliomyelitis anterior,* subacute, in a white man of forty-four without syphilitic or other dyscrasia. The onset was gradual, with numbness and coldness in the left toes and increasing weakness at the left ankle. Five weeks later there was thermoparæsthesia over both legs. The tactile and pain senses were normal. There were no bladder or rectal symptoms. The knee-jerks were active. The ankle-clonus was absent. Recovery was complete in about two months. The lesion was considered primarily a thrombosis in the fourth and fifth lumbar segments. 2. *Traumatic poliomyelitis* of the cervico-dorsal cord without vertebral fracture. The medico-legal aspects of the case were important as furnishing additional proof that organic damage of the cord might occur in the absence of fracture of the bony canal.

(To be continued.)

Book Notices.

A System of Medicine. By Many Writers. Edited by Thomas Clifford Allbutt, M. A., M. D., LL. D., F. R. C. P., F. R. S., F. L. S., F. S. A., Regius Professor of Physic in the University of Cambridge, etc. Volume IV. New York and London: The Macmillan Company, 1897. Pp. xii–1001.

The fourth volume of this admirable system is thoroughly in harmony with its predecessors. Acute rheumatism is the topic first presented, and then naturally we encounter those symptomatically allied conditions in covering whose sinful multitude the term rheumatism resembles charity. Chronic rheumatism, muscular rheumatism, gonorrhœal rheumatism, rheumatoid arthritis; of these it suffices to write that the setting forth could scarcely be more satisfactory. Rickets follows and is thoroughly considered. So far as treatment is concerned, we agree with the author in placing the greater dependence upon dietetic and hygienic agents, but we do not relegate phosphorus to the therapeutic limbo, as he would do; on the contrary, while fully alive to its disadvantages, we rate it high in rhachitis, especially in the saline form. With brief chapters upon osteomalacia, osteitis deformans, acromegaly, and hypertrophic pulmonary osteo-arthropathy the treatise proceeds with an able chapter upon gout in its various forms. The sole adverse criticism of this must be that the laboratory is pictured rather at the expense of the clinic.

After excellent chapters upon the two forms of diabetes, the first portion of the volume is concluded with a chapter upon lardaceous disease.

The second part of the book concerns the diseases of alimentation and excretion, the latter name having here a somewhat unwarranted limitation to the intestinal tract. Very acceptably, the consideration of the several diseases herein classed is preceded by most excellent chapters upon the general pathology of digestion and of secretion, matters for the insertion of which in an introductory capacity the reader will certainly be grateful. It is curious, however, that the editor should have seen fit here to introduce a chapter upon shock and collapse; their alimentary connection is scarcely so close as to warrant the insertion, and as a result the feature of logical sequence is destroyed. Unusually complete are the chapters upon the diseases of the mouth and of the œsophagus, and then gastric diseases are introduced with dyspepsia, a title which may be objected to by some as unscientific and of symptomatic import only, but which is likely to have long and useful employment unless digestion more rapidly yields its secrets than has hitherto been the case. This chapter is a most readable and valuable contribution, and the more so that the author does not attempt to classify and to subdivide the subject, but so to describe and generalize that the reader both enjoys and understands, and fits the contents to his own observations. The various gastritides follow, then gangrene of the stomach, and finally cirrhosis of that organ. Welcome introductions at this point are those on sea-sickness and mountain-sickness, and then an able chapter by the editor upon neuroses of the stomach. Dilatation of the stomach naturally occupies a considerable space, as gastric and duodenal ulcers do. Then follow tumors of the stomach, subphrenic abscess, diaphragmatic hernia, and, noteworthy introduction at this point, a chapter upon abdominal diagnosis from a gynæcological standpoint. Enteroptosis follows, and then come the diseases of the peritonæum.

The sections of the book dealing with the diseases of the bowels are introduced by a brief presentation of the subject of defæcation, and then the subject of constipation is taken up. In turn there follow the diseases of the small intestine, colic, diarrhœa (especially, and exhaustively treated, that of childhood), and sprue in seeming disorder, and yet an order not without warrant; and then comes the larger subject of intestinal obstruction. Large though the subject is, the handling of it here is not excelled save by the volume which it occupies exclusively, which is the product of the same author. Perityphlitis is thoroughly discussed and the volume ends with a satisfactory setting forth of the diseases of the colon.

We can not but emphasize again what has so often come to our minds in reading the several volumes of this work, and that is the breadth and liberality in an educational sense which everywhere mark its pages. The subjects are set forth clearly and ably, and yet withal absolutely without that hidebound adherence to classification and minute subdivision which is the bane of medical writing in America and lethal to everything literary. There is no reason why pleasure may not be had from a medical treatise as well as profit, but it is in works like this only that pleasure may be sought, not in those whose every page is a tabulation.

We notice that in the present volume the printer's work is not as it should be; in fact, it is unworthy of the cause in which it is employed.

A Text-book of the Practice of Medicine. By James M. Anders, M. D., Ph. D., LL. D., Professor of the Practice of Medicine and of Clinical Medicine in the Medico-chirurgical College, Philadelphia, etc. Illustrated. Philadelphia: W. B. Saunders, 1897. Pp. 3 to 1287. [Price, $5.50.]

The medical man of our time is in a fair way to be bewildered and confused by the wealth of medical publications which are presented for his use. Of no class of works is this so true as of those which treat of "practice," for we are more than amply provided with such works, and among them it is a matter of no little difficulty to choose. Variations there are, of course, among these works, and will be so long as they reflect the individuality of their authors, but to all practical intent and purpose they are members of the same small family, and rather more than that in many cases, in fact, rather twins than brothers. The work of Dr. Anders illustrates these facts; it is a worthy production and in many respects exceedingly able; it is a work by which many may and doubtless will profit, for it is both comprehensive and reliable, but, without sacrifice or proper individuality, it differs by very little from many another work of similar scope and purpose. It has the conventional make-up of a single-volumed "practice of medicine"; it consumes the usual 1,200 pages or thereabout; it begins with typhoid fever and ends with parasites, and from alpha to omega it follows the stereotyped order and method. Now, this, indeed, is not to its discredit, for radical departures from medical conventionality, far from being wise, are generally foolish, but it can not but disappoint one to encounter so many works upon the same subject whose features are of a similarity so close. As we have said, there are a number of these more prominent "practices" any one of which one might use with wisdom, and among this number the work of Dr. Anders deserves and will have a place, rather, however, because of its careful conventionality than from any other quality. If we were asked wherein the work differed from the type, we might say in a greater attention to diagnosis than in any other quality, and for this reason the work will attract many, we have no doubt. Apart from this, there are, of course, variations due to individual opinion, and these are certainly to be received attentively. In some respects the work is open to adverse criticism; the magnitude of the field has in a few instances led to an undesirable curtailment of certain not unimportant subjects; again, the phraseology and style are often inelegant, and that without reference to a peculiar orthography constituting a sort of *patois*. To sum up, then, frankly and impartially, the work of Dr. Anders is a good one, it is one of a number of major works upon the subject all of which are good, but wherein lies its advance over these or its superiority or its improvement we fail to see.

Lehrbuch der physiologischen Chemie mit Berücksichtigung der pathologischen Verhältnisse. Für Studirende und Aerzte. Von Richard Neumeister, Dr. med. et phil., a. o. Professor der physiologischen Chemie an der Universität Jena. Zweite, vielfach vermehrte und theilweise umgearbeitete Auflage. Mit 1 lithographischen Tafel. Jena: Gustav Fischer, 1897. Pp. xviii–927. [Preis, 19 Marken, 50 Pfenninge.]

In the first edition this work was published in two parts, the first of which appeared four, and the second two, years ago; these parts are united in this, the second edition, into one volume. The general character of the book has been altered but little in the new edition; it has been enlarged, however, by nearly two hundred pages. The principal change, aside from the fact that the recent advances in the science are fully discussed, is the addition of many references to the older literature, so that the reader is enabled to take a survey of the entire subject. A list of the authors cited is also added.

It is impossible to give in a review more than the merest outline of the character and scope of this important book, which is unquestionably the most complete and satisfactory work we have at present dealing with this vast and rapidly growing subject.

The first part, which treats of nutrition, contains first a short chapter on the chemical processes occurring in the animal cell, while the remaining chapters are devoted to the food-stuffs, fermentation, digestion, absorption, and assimilation. The chemistry of the food-stuffs is very fully considered. Especially noteworthy in this connection is the full account of the recent work of Fischer on the carbohydrates, which receives fuller consideration here than in any other text-book of physiological chemistry. The nucleins and nucleoalbumins, which have recently come into such prominence, are also considered more fully than in the first edition. The treatment of the chemistry of the proteids does not differ greatly from that of other authors; a classification is given which is very similar in its general outlines to the ones recently proposed in this country by Chittenden and by Lusk. It is to be regretted that the nomenclature differs in these classifications. Thus, Neumeister uses the term *Proteinstoffe* to designate the entire class of bodies for which the American, as well as the English, writers use the word "proteids," while the term *Proteide* is restricted to those bodies which Chittenden calls "compound proteids" and Lusk "combined proteids" (hæmoglobin, mucin, etc.). To those interested in the broader problems of fermentation it may be a matter of regret that the chapter dealing with this subject does not contain a fuller account of the work of Fischer and Thierfelder on the configuration of the carbohydrate molecule and its fermentability.

The second part of the book treats of the chemical composition and function of the several tissues and organs and of the blood, lymph, milk, and urine. We fail to find here such a chapter as that in Hammaisten's *Physiological Chemistry* on the animal cell in general and the relations of cytoplasm and nucleus and the chemistry of the latter—problems of great interest to all occupied with the study of the biological sciences in their widest significance; many facts bearing upon these problems are, however, found scattered throughout the book. In the chapter on the blood the recent conflicting views of the nature of coagulation are carefully discussed. The section devoted to the urine, occupying as it does about two hundred pages, might almost serve as a complete treatise on this important subject.

Throughout the work the author has kept in mind the needs of the medical man, and accordingly we find many references to pathological conditions; thirty-five pages, for example, are devoted to diabetes, and the relation of iron to chlorosis is discussed in like manner. The recent work on the thyreoid is very critically examined.

Constant reference is also made to comparative physiology, the chemical composition of the lower animals and plants and the transformations occurring in them being cited to throw light upon the processes occurring in man. In fact, there are few subjects relating to physiological chemistry in its broadest sense which are not treated of in this work, and all in a clear, critical, and conservative manner.

The references to the original works are very full and form a valuable picture of the work; in the list of authors we find over two thousand names.

The book is said to be written for "students and physicians," but to those who are not interested as specialists it will probably serve rather as a work of reference; to all those, however, who desire a full account of the physiological chemistry of to-day it will prove invaluable.

The New Psychology. By W. E. Scripture, Ph. D. (Leipzig), Director of the Yale Psychological Laboratory. With One Hundred and Twenty-four Illustrations. London: Walter Scott, Ltd. New York: Charles Scribner's Sons, 1897. Pp. xxiv–500. [Price, $1.25.]

To define the quickness of thought, to ascertain the limits of memory, to measure the imagination, and all these with a mathematical accuracy, are some of the problems that confront the new psychology and have been more or less completely solved by its students. The aim of this book is to show what has been done and how it has been done; to make clear the fundamental ideas of the new science by a description of its methods of careful experiment and measurement, of the results obtained by these methods, and of the systematic development of its principles from these results.

Part I deals with methods, and in reading it one is reminded of the quotation from Hippocrates: "Experience is fallacious, and judgment difficult." The difficulties of trustworthy observation, the variations that occur in statistics, and the inaccuracy of measurements are all discussed, and the author explains the nature of an experiment which shall possess the requirements necessary to give it scientific value.

In Part II, the subject of which is time, these methods are illustrated. In successive chapters the author describes the means by which the time of sensation, that of volition, that of reaction, and that of thought are estimated, and shows how the laws of rhythmic action are studied. Under the heading of "succession in time," the section closes with a chapter on the laws governing the association of ideas and the experiments by which it is being made possible to study them.

Part III, on energy, deals rather with results, and is in many respects the most interesting part of the book to the general reader. Thought-transfer, or mind-reading, the planchette, and other more or less familiar wonders are discussed, and the author gives their explanation from the standpoint of psychology, so far as it is known. The experiments bearing on the sensations and on the feelings of liking and disliking are described in several interesting chapters.

In treating of space (Part IV) principles are made prominent. It is, perhaps, the hardest part of the book to understand, and we are more than ever grateful, in reading it, for the author's clear and logical style.

Part V is more historical. It describes the sources whence the new science has arisen, and mentions the men by whom it has thus far been developed.

The book is an admirable one. In it the author has accomplished a most difficult task, that of presenting an abstruse scientific subject in such a way that it can be understood by the lay reader. The fact that psychology is a science, though still in its infancy, and that therefore its aims, methods, and results are and must be strictly scientific, is most skillfully shown, and, while a keen interest is aroused in the wonderful possibilities of the future, the reader is constantly reminded that these possibilities can be realized only by the careful work of trained observers.

Incompatibilities in Prescriptions. For Students in Pharmacy and Medicine, and Practising Pharmacists and Physicians. By Edsel A. Ruddiman, Ph. M., M. D., Adjunct Professor of Pharmacy and Materia Medica in Vanderbilt University. First Edition. First Thousand. London: Chapman & Hall, Limited. New York: John Wiley & Sons, 1897. Pp. 264. [Price, $2.]

However important the study of incompatibility is to the medical student, it is an unfortunate fact that he regards it as but another means devised for his torture and, if permitted, will neglect it. It is to be feared that his medical elders, so far as the acquirement of chemical knowledge is concerned, look upon incompatibility in the same way, though the medical man, being under no didactic compulsion and yet allowing the importance of the matter, is apt to keep lazily in the path of safety by using time-honored and therefore "safe" if sometimes "shop-worn" prescriptions to the end of his life.

If one cares to think for himself in such matters, however, and dares to prescribe with originality, he will find in the volume now before us a guide on which he may rely with all confidence. The pharmacist and the student in pharmacy need scarcely come into our consideration of this matter, for to them a work like this must be a matter of necessity.

In Part I there are presented alphabetically all those various agents which the physician prescribes and the pharmacist dispenses. In each case the drug title is followed by the statements of incompatibility that apply to that case, and such abbreviated references are given as to facilitate more extended search if it is desired. Part II is the student's part, for in it there are three hundred and twenty-five examples of faulty prescriptions, the understanding of which is insured by the explanations and criticisms which follow. The work is an admirable one, and we wish it was possible to insure its general consultation, for clearly that could not but do great good.

Surgical Pathology and Principles. By J. Jackson Clarke, M. B. (Lond.), F. R. C. P., Assistant Surgeon at the Northwest London and City Orthopædic Hospitals, etc. With One Hundred and Ninety-four Illustrations. London, New York, and Bombay: Longmans, Green, & Co., 1897. Pp. xviii–440. [Price, $3.]

This is essentially a book for students. The subject is well classified, and treated of in a succinct manner, well adapted to the needs of the beginner as well as the more advanced student. It is evident that the author has a well-developed method of teaching, which he has carried throughout the book.

The first part of the book is devoted to general considerations of nutrition, repair, and inflammation.

The chapter on repair is excellent. Then follow chapters on new growths and congenital malformations.

The second and larger part treats of the diseases of special tissues and organs. This feature renders the book more complete than many others of its type, and is especially valuable to the student, as it applies the generalities of pathology directly to the parts affected.

The theories of thyreoid feeding and the antitoxines are treated to some extent.

Although it will not compare with large reference works, the book is so well put together and the style so good that any one will find it instructive and interesting.

Outlines of Anatomy. A Guide to the Methodical Study of the Human Body in the Dissecting Room. By Edmund W. Holmes, A. B., M. D., Demonstrator of Anatomy, University of Pennsylvania. Philadelphia: The Avil Printing Company, 1897. [Price, $2.]

As the author states, this little book is designed to systematize the work of his students in the dissecting room. It is not a text-book, and contains little descriptive anatomy. It will be read with interest by those engaged in teaching, and the student will gather from it many ideas as to methods of dissection.

A separate chapter is devoted to the dissection of each part, and the exact amount to be dissected each day is specified, twenty-eight days being allowed for the completion of the entire part. At the ends of the chapters myological tables are added.

The book is good as the exponent of a method. We are sorry to see some of Gray's errors perpetuated in it.

Die Stricturen der Harnröhre und ihre Behandlung. Von Dr. med. H. Wossidlo in Berlin. Leipzig: C. G. Naumann, 1897. Pp. viii–185.

Those who wish for a careful study of urethral stricture will find in Dr. Wossidlo's booklet a useful manual.

This little volume, in paper, of 182 pages, gives a thorough discussion of the subject, and should be a helpful addition to the literature treating of this frequent lesion.

Beginning with a careful explanation as to the limitation of the term stricture, it deals with the history, ætiology, pathology, symptomatology, clinical course, and diagnosis of stricture. Under the last head are described the various methods of instrumental examination of the urethra and urethroscopy. A short chapter on prognosis follows.

The treatment of stricture is most carefully considered and in its discussion the author follows an elaborate classification.

The surgical methods of treatment are taken up, one by one, and the merits of the various forms of dilatation, cauterization, electrolysis, forced catheterism, and divulsion are dwelt upon, as well as the operative procedures of internal and external urethrotomy, resection, and posterior catheterism.

The author next deals with the complications and sequelæ of stricture, and discusses complicating urethritis, retrostrictural inflammation, infiltration of urine, abscess, and fistula as being urethral and peri-urethral complications; also retention, incontinence, bladder hypertrophy and dilatation, cystitis, affections of the ureters and kidneys, nephrydrosis, pyelitis, pyelonephritis, epididymitis, and orchitis as retro-urethral complications.

The volume closes with a description of constitutional conditions in stricture and of urethral fever, together with a brief account of stricture in the female.

The treatment of stricture itself and that of complicating cystitis will appeal to the general practitioner most, and should be of value, as the subject-matter is both interesting and instructive.

Lippincott's Pocket Medical Dictionary. Including the Pronunciation and Definition of Twenty Thousand of the Principal Terms used in Medicine and the Allied Sciences, together with Many Elaborate Tables. Edited by Ryland W. Greene, A. B., etc. Philadelphia: J. B. Lippincott Company, 1897. Pp. 5 to 421.

We have been very much pleased by the examination of this little dictionary, which, so far as we have been able to discover, is eminently justified in claiming favor because of "its fullness, accuracy, and convenience" (from the preface); and to its convenience the size, print, and make-up of the little volume all contribute.

BOOKS, ETC., RECEIVED.

Archives of the Röntgen Ray (formerly Archives of Skiagraphy). Edited by W. S. Hedley, M. D., M. R. C. S., in Charge of the Electro-therapeutic Department, London Hospital, and Sydney Rowland, M. A., M. R. C. S., etc. Vol. II, No. 2. London: The

Rebman Publishing Company, Limited, 1897. Pp. 21 to 37. [Price, $1 each part.]

The Psychical Correlation of Religious Emotion and Sexual Desire. By James Weir, Jr., M. D. Second Edition. Louisville, Kentucky: The Courier-Journal Job Printing Company, 1897. Pp. 11 to 338.

Radiography in Marine Zoology. The British Echinodermata. A Supplement to the Archives of the Röntgen Ray. By R. Norris Wolfenden, M. D. Cantab. With Thirty-six Illustrations in Fifteen Plates. London: The Rebman Publishing Company, Limited, 1897. Pp. 6. [Price, 4*s.*]

Illustrated Skin Diseases. An Atlas and Text-book with Special Reference to Modern Diagnosis and the Most Approved Methods. By William S. Gottheil, M.D., Professor of Skin and Venereal Diseases at the New York School of Clinical Medicine, etc. Portfolios X, XI, XII, and XIII. New York: E. B. Treat & Co., 1897. Pp. 229 to 424. [Price, each part, $1.]

A Way that Seemeth Right. An Examination of Christian Science. By H. Martyn Hart, D. D., Moderator and Medalist in Experimental and Natural Science, Trinity College, Dublin, etc. New York: James Pott & Co., 1897. Pp. 111.

Les localisations des fonctions motrices de la moelle épinière. Par le Dr. Fritz Sano. Anvers: J.-E. Buschmann, 1898. Pp. 6 to 40.

The Leadville Campaign. A Paper presented to the Association of Military Surgeons of the United States. By Colonel Clayton Parkhill and Major L. H. Kemble, of Denver. [Reprinted from the *Proceedings of the Seventh Annual Meeting.*]

On the Disappearance of Endocardial Murmurs of Organic Origin. By J. H. Musser, M. D., of Philadelphia. [Reprinted from the *British Medical Journal.*]

Angina Pectoris; its Relation to Dilatation of the Heart. By J. H. Musser, M. D. [Reprinted from the *American Journal of the Medical Sciences.*]

A Clinical Study of Widal's Serum Diagnosis of Typhoid Fever. By J. H. Musser, M. D., and John M. Swan, M. D., of Philadelphia. [Reprinted from the *Journal of the American Medical Association.*]

A Case of Leucæmia. By J. H. Musser, M. D., and Joseph Sailer, M. D. [Reprinted from the *Transactions of the Association of American Physicians.*]

A Case of Carcinoma of the Descending Colon; Excision and Anastomosis; Recovery. By John H. Musser, M. D., and Thomas S. K. Morton, M. D. [Reprinted from the *University Medical Magazine.*]

Contributions to the Ætiology of Pulmonary Tuberculosis. By W. Freudenthal, M. D.

Have we found a Radical Cure for Inguinal Hernia? By W. B. De Garmo, M. D. [Reprinted from the *Charlotte Medical Journal.*]

A New Apparatus for the Fixation of Bones after Resection and in Fractures with a Tendency to Displacement. By Clayton Parkhill, M. D., of Denver. [Reprinted from the *Transactions of the American Surgical Association.*]

The Preparation and Testing of Diphtheria Antitoxine. By George W. Cox, M. D., of Chicago. [Reprinted from the *Journal of the American Medical Association.*]

The Clinical Value and Chemical Results of Using Professor Gaertner's Mother's Milk in Children. By Louis Fischer, M. D., of St. Louis, and Herman Poole, F. C. S., of New York. [Reprinted from the *Medical Record.*]

Miscellany.

A New Method of Intestinal Anastomosis.—In the December number of the *New York Polyclinic,* the editor, Dr. J. Shelton Horsley, remarks that the ideal operation for intestinal anastomosis would be one done with sutures in the shortest time compatible with safety, in which the ends of the bowel were as nearly as possible in the natural relation, and in which contraction would not diminish the calibre of the intestine below the normal.

It has occurred to him, after a study of the subject both in literature and experimentally, that the following method, which has been tested on animals and the cadaver, would answer the requirements. Preparations for an aseptic operation are rigorously carried out. After the incision in the abdominal wall is made, the diseased intestine is drawn well out of the abdominal cavity, and sterilized tapes are placed through the mesentery several inches from the point to be resected and tied around the intestine just tight enough to check the fæcal flow. Fæcal matter is stripped from between the tapes before tying them. The intestine is resected, bleeding points in the mesentery are secured with artery forceps and ligated with silk, and the ends are mopped out with moist bichloride sponges. The mesentery is incised for several inches at right angles to the intestine, or a V-shaped section removed to facilitate the subsequent manipulation. The ends of the bowel are then placed side by side, opening in the same direction and being in contact along their free surfaces, opposite the attached mesentery. An artery forceps inserted in the ends and clamped holds them in this position. A finger of the left hand is inserted into one end of the intestine, and the thumb into the other, and over them, as a bobbin, a Cushing suture of fine silk in an ordinary cambric needle is begun. The first stitch approximates the portion of the two limbs of the intestine near the mesenteric attachment. The suture is then carried obliquely for about two inches, in the case of the small intestine, to the border opposite the mesenteric attachment, and continued over the other side, where it stops at a place corresponding to its point of beginning. Here the needle is left on the thread and an artery forceps, padded with sterilized gauze to prevent injury to the thread, seizes it where it emerges at the last stitch. This keeps the sutures tight. The bowel is now partly everted, exposing a U-shaped sæptum grasped by the artery forceps first applied. This sæptum is cut away with curved scissors, leaving a margin of a third of an inch. An overhand suture of silk in a curved needle is then begun at one edge of the "shelf" left by cutting away the sæptum, and is carried through all the intestinal coats. When the suture reaches the end of this shelf, it is continued by slightly invaginating the rest of the resected ends, which consists of about one fourth of the entire circumference. It terminates at its point of beginning. The first line of sutures is now finished by continuing it about a quarter of an inch from the overhand suture. The incision in the mesentery is closed, and the intestines are lightly sponged with gauze wrung out of hot sterilized salt solution and dropped back into the abdominal cavity.

The writer says that the advantages of this operation are: 1. It is a suture method and the instruments required are of the simplest. 2. The result looks as if the ends of the bowel had been cut obliquely at the expense of their free borders and then united. This gives a diameter at the sutured portion greater than the normal diameter of the intestine and so obviates stricture. 3. It can be applied very rapidly, taking only twenty minutes, and this, in skilled hands, may be lessened several minutes. 4. Applying the sutures during most of the operation over the fingers as a bobbin increases the safety of the suturing. 5. The internal row prevents all hæmorrhage.

Besides experiments upon the cadaver, a series of three dogs has been operated upon by the writer and the results have been carefully noted. Only three experiments on dogs were made, as these fully covered the ground and it was believed that, carefully studied in every detail, they would be of more value than a large number of repetitions that could not be so closely watched.

I. A small male dog, weighing ten pounds, was operated upon under anæsthesia. An incision was made in the middle line and an inch of intestine resected. On account of the thick muscular coat and the small calibre, the operation was more difficult than it would have been in a human subject. The time from making the first incision to the last suture in the abdominal wall was forty minutes. On the third day after the operation there had been no movement from the bowels. Two grains and a half of calomel were given, and a copious fæcal evacuation followed. After the first week solid food was given freely. Recovery was uninterrupted. Twenty-four days from the date of the operation the dog was killed with chloroform and the specimen removed. The intestine was firmly united at the point of resection and of wide calibre.

II. A small female dog, weight seven pounds, was etherized. The incision was made in the left inguinal region and a portion of the descending colon and the sigmoid flexure were drawn out. The intestine was simply divided without resection. The diameter of the ends was scarcely more than half an inch and the walls were very thick. The finger, of course, could not be inserted as recommended. The thickness of the walls and the small lumen made the latter part of the operation quite difficult, and the sutures had to be inserted deep in order to bring about enough tension to approximate the stiff walls. The dog died after seventy-two hours, without a movement of the bowels. Urine was passed only once after the operation. On necropsy, fibrinous suppurative peritonitis was found. Some pus had formed, but most of the exudate away from the seat of operation was fibrinous and very firm. The portion of the bowel that had been operated on was removed. There was a fistula where liquid fæces had oozed through. The specimen was split open in the axis of the intestine and a spot to one side of the mesenteric attachment found where two contiguous sutures had penetrated the mucous membrane, and the tension had caused them to enlarge the punctures made by the needle. This, of course, was not a fault of the operation, and in intestines of large calibre would not have happened.

III. A black male dog, weight twenty-five pounds, was etherized and the operation was performed as recommended. A loop of the small intestine was drawn through an incision in the middle line, and an inch resected. Owing to the large calibre, the operation was more easily performed than in either of the other cases. The bowels moved the next day. Recovery was uninterrupted. The dog was killed with chloroform after thirteen days and the specimen removed. It well illustrated what the writer alleges for his operation. Save a slight local plastic peritonitis, there seemed to have been but little disturbance of the tissues involved.

A New Dispensary Bill.—The following, termed the "Joint-Committee Dispensary Bill," has been approved by the Medical Society of the County of New York:

SECTION 1. By and for the purposes of this act a dispensary is declared to be any person, corporation, institution, society, association, or agent whose purpose it is, either independently or in connection with any other purpose, to furnish, at any place or places, to persons non-resident therein, either gratuitously or for a compensation determined without reference to the value of the thing furnished, medical or surgical advice or treatment, medicine, or apparatus; provided, however, that the moneys used by and for the purposes of said dispensary shall be derived wholly or in part from trust funds, public moneys, or sources other than the individuals constituting said dispensary and the persons actually engaged in the distribution of the charities of said dispensary.

SEC. 2. Six months after the passage of this act, it shall not be lawful for any dispensary to enter upon the execution or continue the prosecution of its purpose unless duly licensed by the State board of charities as hereinafter provided.

SEC. 3. Upon the filing with the State board of charities of an application and statements in such form and of such substance as shall be prescribed by said board, said board may issue a license, in such form as it shall prescribe, to any dispensary if in the judgment of said board the statements filed and the evidence submitted therewith indicate that the operations of said dispensary will be for the public good.

SEC. 4. The State board of charities is hereby empowered to make rules and regulations, and to alter or amend the same, in accordance with which all dispensaries shall furnish and applicants obtain medical or surgical relief, advice or treatment, medicine or apparatus, but nothing in this act contained shall be construed to mean that said board shall have power to determine the particular school of medicine in accordance with which any dispensary shall manage or conduct its work, or to determine the kind of medical or surgical treatment provided by any dispensary.

SEC. 5. When it shall appear to the satisfaction of the State board of charities that any dispensary licensed by it under the provisions of this act has violated any of the provisions of this act or any of the rules and regulations made by the said board under authority of this act, then and in that event the said board is hereby empowered, due notice and an opportunity for a hearing having been given to said dispensary, to suspend or revoke the license of said dispensary.

SEC. 6. Six months after the passage of this act, no dispensary shall make use of any place commonly known as a drug store, or any place or building defined by law or by an ordinance of a board of health as a tenement house.

SEC. 7. Six months after the passage of this act, it shall not be lawful to display or cause to be displayed, in any manner whatsoever, any thing which could directly or by suggestion make public the existence of the equivalent, in purpose and effect, of a dispensary.

SEC. 8. Any person who violates any of the provisions of this act or any of the rules and regulations made and published under the authority of this act shall be guilty of a misdemeanor and on conviction thereof shall be punished by a fine of not less than ten dollars and not more than two hundred and fifty dollars.

SEC. 9. Nothing in this act contained shall in any wise be construed to abridge any of the powers of the said State board of charities or of any of the members or officers thereof or inspectors duly appointed by it now existing under and by virtue of Chapter 546 of the laws of 1896, known as the State Charities Laws.

Sec. 10. This act shall take effect immediately.

A Cutaneous Affection caused by the Cone-shaped Primrose.—In the November number of the *Annales de dermatologie et de syphiligraphie* Dr. Arctander, of Storchedinge, Denmark, states that he has treated several cases of a rather curious cutaneous affection during the past six months. This affection was especially annoying in one of the patients, as much on account of the intense pains as on account of the endless relapses, for which no explanation could be given. The author states that he has observed this affection only in women; in some the hands and the palms of the hands were affected; in others, the face and the neck, while the parts of the skin that were protected by the clothing were never affected.

The trouble began with a pricking sensation which gradually became an intense smarting, and it was accompanied by febrile symptoms when it became rather pronounced. In the less serious cases there was a very slight redness of the skin, especially of the fingers, while nothing was found in the palmar region, except dryness and heat. But in the graver cases the skin was tumefied, and there was intense and diffuse infiltration with a red serosity, with here and there small bullæ filled with a limpid liquid. The eyelids were ordinarily greatly swollen and covered with large bullæ, and the eyes were half closed.

The tension and the redness were sometimes so intense that the affection resembled erysipelas. The day after the attack terminated desquamation began, sometimes furfuraceous, sometimes lamellar, involving all of the epidermic layer in such a manner that in some places the papillary layer was exposed. The infiltration of the tissues lasted for some time, so that the eyelids were stiff and immovable for several days, as if the patient had been attacked with ptosis. It was observed by the author that the affection began with and was limited to only slightly pronounced symptoms in some patients, while it increased in those who had experienced serious relapses, so that the clinical appearance presented was remarkable. Dr. Arctander relates a history of a case as an illustration of this. He is of the opinion that this plant, *Primula obconica,* undoubtedly provokes the affection described, and that in the case referred to there was a predisposition on the part of the patient to contract it, for neither the gardener nor he himself had been affected at all after having touched the plant; other women had also escaped. One of the patient's sisters, who was predisposed to eczema, had had a serious attack soon after touching the plant. The progress of the affection had been very distinct in this patient; the hands had been attacked at first, and on account of their frequent contact with the face that also had become attacked in its turn, while the other parts of the body had escaped.

With regard to the little plant which produces this affection, says Dr. Arctander, it belongs to the family of the *Primulaceæ.* The flowers are of a very clear lilac color, almost white, and the leaves and the stem are hairy. A microscopical examination revealed two kinds of hairs on the surface; some were formed by a row of longitudinal cells, but the hairs were not pointed as in the nettle; the others were glandular hairs, rather short, such as are found in a great number of other *Primulaceæ;* they were formed by three or four cells, the latter of which formed a round vesicle which contained a yellow secretion. It is this secretion, without doubt, says Dr. Arctander, which provokes the irritation of the skin.

The Rest Cure in Hysteria.—The *Journal of the American Medical Association* for December 25th publishes a report of a recent meeting of the Chicago Academy of Medicine at which Dr. H. C. B. Alexander presented a paper on this subject. The value of the rest cure in hysteria, he said, would turn entirely on the organism attacked. In a degenerate organism or in one with an acquired neuropathy due to traumatism or secondary to constitutional disorders, infections or not, hysteria under the strict Weir Mitchell type of rest cure (especially as conducted by trained nurses without medical supervision) did not do well as to ultimate mental outcome. With the rest cure modified as far under medical supervision as to introduce a healthier mental tone, even this type might improve very decidedly. Improvement in general nutrition without mental improvement was often mistaken for a cure of hysteria. As the disorder was practically accepted by the vast majority of neurologists as a psychosis with nervous expression such cures were physiologically illogical and did much to injure medical science in popular estimation, since they supported the pretensions of the faith healers and other charlatanic enthusiasts. The hysterical inhibitions needed strengthening, and unless this was done nothing was permanently accomplished. The hysterical person, in his experience, was peculiarly susceptible to suggestion so far as individual symptoms were concerned. This element of suggestion constituted at once one of the dangers and the benefits of the rest cure. Too frequent concentration of the patient's mind on a symptom or group of symptoms tended, Dr. Alexander said, under the simplest principle of association, to produce exaggeration or fixity of these symptoms through suggestion. The opposite course had decidedly beneficial effects. This constituted one of the dangers of the trained nurse in this method of treatment. Her desire for objective symptoms due to methods taught as to so-called precision led to the frequent suggestion of new symptoms to the nosophiliac mind of the hysterical. The same fact should rule diet and medical treatment. In the type of hysteria developing upon a nervous adynamia or brief neurasthenia the rest cure gave undeniably good results, but, as in the deep neuropathic or degenerate types, its essential principle of seclusion from improper sympathy, medical or other, must be rigidly carried out. The defects of the rest cure largely arose from the violation of this essential principle. The cure should always be under the care and supervision of a physician. The trained-nurse rest cure, he said, was no less quackish than other forms of the practice of medicine by laymen. To them was due the disrepute the rest cure had obtained with many excellent practitioners. Removal of the patient from the morbidity-manufacturing atmosphere of home was a necessity, but it was no improvement to fling the patient into a lay environment which would manufacture a similar atmosphere by the showy use of instruments of precision in the search for symptoms which would undoubtedly be furnished abundantly under such conditions by the hysterical. Diet, medicine, etc., during the rest cure must be suited to each case.

Original Communications.

ALKAPTONURIA.*

By THOMAS B. FUTCHER, M. B.,
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The importance of a familiarity with the characteristics of the urine in the condition known as alkaptonuria was illustrated by a case which came under observation during the past year. The reactions of the urine in this peculiar condition are of interest to the general practitioner, but more particularly to the medical examiners of life-insurance companies, who may readily mistake them for those of sugar, as has been done in a number of the cases recorded. During the past year a patient consulted Dr. Osler, stating that he had been told by a number of physicians that he was suffering from diabetes. A specimen of urine was sent to me for examination, and from the characters presented I was able to state definitely that the patient was not suffering from diabetes, but from the so-called alkaptonuria. Before proceeding with a description of the urine of this case I will give a review of the literature on the subject.

The term alkaptone (from "alkali" and κάπτειν, "to absorb greedily") was first applied by Boedeker (1) to a substance found in the urine of a patient, which possessed two chief characteristics: first, the power of reducing alkaline copper solutions; and, secondly, the property of absorbing oxygen from the atmosphere in the presence of an alkali, and, as a result, taking on a dark brown to a black color. It was this latter characteristic which suggested the name alkaptone to Boedeker.

His case occurred in a man forty-four years of age, whose urine was shown to be free from grape sugar by its failing to ferment and by its being optically inactive. The patient complained of general weakness and pain in the lumbar region of the abdomen. The urine had a reddish-brown color, and the alkaptone was isolated in the following manner: The urine was first precipitated with neutral lead acetate, filtered, and the filtrate again treated with basic lead acetate. Hydrogen sulphide was then added to the precipitate thus obtained, the mixture being again filtered. The filtrate, after the separation of the lead sulphide, was evaporated and extracted with ether. After the ether extract was evaporated a gold yellow, glistening, hygroscopic mass remained, from which it was not possible to separate a purer chemical compound. This mass became viscid in a moist atmosphere, and emitted a urinous odor on being melted. It was easily soluble in water and alcohol, but very slightly, on the other hand, in pure ether. Aqueous solutions of this substance took on a brown color when alkalies were added, owing to the absorption of oxygen. They reduced solutions of silver nitrate, permanganic and chromic acids. Fehling's solution was reduced on the application of heat. Silver-nitrate solution in ammonia was reduced without the application of heat, whereas neutral solutions of silver nitrate were reduced only on the application of heat. Aqueous solutions of the substance obtained did not reduce bismuth subnitrate; no fermentation resulted on the addition of yeast; chloride-of-iron solution gave a dark-brown color Boedeker believed that this product he obtained, which he called alkaptone, was a nitrogen-containing substance.

In 1875 Fürbringer (2) reported a case of alkaptonuria in a patient twenty-nine years old, and confirmed all the statements of Boedeker with the exception of the osmic-acid reaction, which was not given. The autopsy revealed a miliary tuberculosis. The pericardial exudate, the blood, and extracts from the kidneys were examined for the presence of alkaptone with negative results.

In the same year, 1875, Ebstein and Müller (3) reported a similar case in a child a year and a half old. A deepening in the color of the urine on exposure to the air had been noticed since the child was ten days old. The mother had observed that the child's diapers became brownish in color where they were stained by the urine. It was further remarked by the mother that the water (which contained alkaline soap in solution) that was used in washing the diapers became brown stained. The urine appeared to have a corrosive action, because it was noticed that the diapers soon became friable, brittle, and easily torn where they came in contact with the urine. The child was kept under observation until it was old enough for the observers to get a sufficient quantity of the urine for the purposes of analysis. The urine was treated with alcohol and ether, and a substance obtained which, from the reactions given, led them to believe that they were dealing with pyrocatechin.

This observation is of interest because it was the first case in which an opinion had been expressed as to what the reactions in alkaptonuria were really due to.

Fleischer next observed a urine which corresponded in its reactions with those of Fürbringer, and in which he was able to demonstrate small quantities of pyrocatechin. Similar reactions in the urine were obtained by Fleischer in several cases by administering salicylic acid to patients.

About this time Boedeker, in a communication to Fürbringer, expressed the view that his alkaptone might possibly have been pyrocatechin.

Interesting in this connection is the observation of Baumann (4), published about this date, that pyrocatechin is a normal constituent of horses' urine and that it frequently, if not regularly, is present in varying amounts in human urine. This led chemists to believe that possibly the characteristics of the urine in alkaptonuria were due simply to an increased excretion of a normal constituent of the urine. This view was expressed by Salkowski and Leube (5), who said, "Apparently identical with pyrocatechin is the alkaptone of Boedeker and Fürbringer."

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* A lecture delivered before the Post-graduate Class of the Johns Hopkins University, June 9, 1897.

That the reaction in the cases of so-called alkaptonuria was not always due to pyrocatechin was suggested in a case reported by Smith (6) in 1882. The urine was from a little girl three years old, and presented all the general characteristics of Boedeker's alkaptone urine. The urine was dealt with in the way described by Boedeker, and a substance obtained which presented features that Smith believed were not due to pyrocatechin, but to protocatechuic acid.

A further contribution to our knowledge regarding alkaptonuria was made by Kirk (7) in 1886. The report is of interest, because it is the first instance recorded where the urine of more than one member of a family presented the characteristics of alkaptonuria. The urine of three young children, all boys, in this family showed these characteristics. The urine of the parents and of an elder brother was normal. The children were healthy in appearance, but were not strong. Urination was frequent but not painful in two of the cases. A substance was isolated from the urine which in many respects were similar to protocatechuic acid, but which showed sufficiently marked differences to prove that they were not identical. To this substance he gave the name "urrhodinic acid." He believed that its occurrence was due to a grave change or arrest in normal metabolism.

In 1887 Marshall (8), in an article entitled A Preliminary Notice of a Crystalline Acid in Urine possessing More Powerful reducing Properties than Glucose, reported an interesting case in which the urine contained a substance having strong reducing properties much resembling those possessed by glucose. The urine had been sent by Professor Donaldson, of Baltimore, who supplied the following notes of the case:

The patient was a man thirty-seven years of age, of florid complexion and of average height and weight, General health and nutrition had always been good. He had never had any muscular weakness or inordinate thirst, no emaciation, but instead, a continued increase in weight. There had been no increase in the urinary secretion. He had always been temperate in his habits.

The case was of peculiar interest because the man had repeatedly, during the previous two years and a half, applied to various life-insurance companies for insurance, but had been refused a policy owing to the belief that he was suffering from diabetes based on certain reactions found in his urine.

The urine from which the acid was obtained was of a brownish-red tint, perfectly clear, and without sediment.

The acid was isolated by a process the details of which will not be here described. It crystallized in opaque white tetragonal prisms, melted at 140° C., and sublimed in the same prismatic form, the crystals generally radiating from the centre. It was very soluble in water and in ethyl ether, soluble in absolute and ordinary alcohol, sparingly soluble in chloroform, insoluble in benzol, toluol, and in petroleum ether. Sodium hydrate added to a solution of the acid gave a brownish discoloration beginning at the top. Picric acid caused no change. There was no reduction of bismuth on the application of Bötger's test. It reduced copper on using Trommer's and Fehling's tests. The acid reduced silver-nitrate solution in the cold. With the fermentation test there was no evolution of gas. Aqueous solutions of the acid had no effect on the rays of polarized light. It did not respond to the tests for oxyphenic acid and hydroquinone. With a dilute neutral solution of ferric chloride a blue coloration was produced which very soon disappeared. From this reaction Marshall concluded that the acid was most likely a phenol derivative.

Marshall suggested for this substance, provisionally, the name "glycosuric acid."

Barton Brune (9), of Baltimore, was the first in this country to report a case in which the urine showed features which would bring it under the general heading of alkaptonuria. The urine and a brief account of the case was sent to Brune by the local agent of one of the New York life-insurance companies. The urine was passed by a young man of good physique, who had in the last three years gained fifteen pounds in weight and three inches in abdominal girth, and also was in apparently perfect health, but had been repeatedly "turned down," as a bad risk, by medical examiners of other first-class companies because of the presence of glucose in his urine. The applicant had recently been examined by the medical staff of the agent's company, and some doubt had been raised regarding the presence of glucose in his urine; and as he wished a large insurance, the urine was sent to Brune for examination.

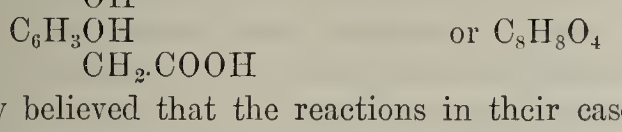
The urine was at first sparklingly clear, light amber in color, acid reaction, specific gravity 1.022. The amount for the twenty-four hours was thirty-two ounces. Upon standing for about fourteen hours the supernatant urine began to be discolored a reddish-yellow, later a brownish-red, from its surface down. On the addition of sodium-hydrate solution the urine became of a port-wine-red color, and later almost black. There was no reduction of the bismuth in Bötger's test. The supernatant fluid showed a discoloration similar to the above. With Johnson's picric-acid test twenty minims gave a reaction such as would be caused by two grains of glucose to the ounce of urine. The coloration was less red than that produced by glucose. Fehling's solution was partly reduced. There was a slight amount of cuprous oxide precipitated. The supernatant fluid was not decolorized, however, but took on a deep brown color. The fermentation test was negative even after thirty-six hours. With Ultzmann's polariscope there was a lævo-rotation of 0.2°, a rotation opposite to that of sugar, but too slight to be of value. Silver-nitrate solution was rapidly reduced. Ferric chloride gave a faint green precipitation.

In this case, then, the reactions suggestive of the presence of glucose were absolutely negatived by the polariscope, fermentation, silver-nitrate and ferric-chloride tests.

The urine was subsequently treated according to the methods described by Smith and Kirk in the study of their cases. He obtained a substance which he believed was identical with Smith's protocatechuic acid, Kirk's urrhodinic acid, Ebstein and Müller's pyrocatechin, and possibly also with Boedeker's "alkaptone." He believed that the substance which Marshall had found, but which he had not identified at this time, was identical with the substance he had found.

Kirk (10) in 1888 published a second communication on alkaptonuria, in which he stated that he had found that the "urrhodinic acid" which he had previously isolated could be made to yield two other bodies. To the first of these he gave the name "uroleucinic acid." The pure acid formed colorless crystals, melted at 133°, and on analysis gave the empirical formula $C_9H_{10}O_5$. The second body isolated presented practically the same characteristics as the uroleucinic acid, differing only in the fact that it did not respond to the bismuth test, which the latter did, and in containing considerably more oxygen than the latter. This second body Kirk called "uroxanthinic acid," and, owing to the fact that it did not reduce bismuth, he believed that to it were to be attributed the peculiar reactions present in the majority of the cases of alkaptonuria.

To Baumann and Wolkow (11) we are indebted for the most exhaustive study of the subject of alkaptonuria that has yet appeared. They studied most carefully the urine of a case which occurred in the surgical clinic in Freiburg. The patient was a man sixty-seven years old and his urine had presented the color characteristic of alkaptone urine since childhood. A sister sixty years of age had also voided urine presenting the same characters since her childhood. They were able to obtain the "alkaptone" in pure form, to ascertain its constitution, and to determine its derivation as a product of tissue metabolism. From the urine of this patient they isolated in pure form homogentisinic acid, which has the following formula:



$$C_6H_3\begin{matrix}OH\\OH\\CH_2.COOH\end{matrix} \quad \text{or } C_8H_8O_4$$

They believed that the reactions in their case were due to the presence of this acid. It crystallizes in the form of large transparent prismatic crystals, which melt at 146.5° to 147° C. and become yellow. When free from water they are not hygroscopic. They are readily soluble in water, tartaric acid, and ether, almost entirely soluble in chloroform, in benzene, and in toluol. The acid readily crystallizes from its watery solutions.

The chemical reactions of its watery solutions were practically the same as those of Boedeker's alkaptone. The constitution of the acid was determined from the combinations which it forms with lead salts.

From the similarity of the characteristics of Baumann's case with those of the alkaptonuria cases of other observers there was no doubt in Baumann's mind but that the urine in the latter instances also contained homogentisinic acid. He draws comparisons between homogentisinic acid and the glycosuric acid of Marshall and the uroleucinic acid of Kirk, showing the marked similarity in constitution.

Baumann and Wolkow believe that the homogentisinic acid is derived from tyrosine, not from deranged metabolic functions, but by the action of a special variety of micro-organism in the intestine. They think the acid is formed in the upper intestinal tract, and attempt to explain how the transformation from tyrosine into homogentisinic acid could occur by drawing a comparison between the structural formulæ of the two substances.

Baumann (12) in 1892 published a method for estimating homogentisinic acid quantitatively.

Embden (13) studied the urine of a sister of Baumann's patient, who also suffered with alkaptonuria. He concluded as a result of his work, first, that we knew nothing definite as to the ætiology or place of formation of the homogentisinic acid, and, secondly, that the evidence that homogentisinic acid was derived from tyrosine in the intestine as a result of the action of micro-organisms was rather against than for this view. He was thus led to oppose the view held by Baumann as to the origin of homogentisinic acid.

In a later communication this same observer (14) gives the results of some experiments carried out on this same patient. It was found that the homogentisinic acid in the urine was increased by a flesh diet; that the administration of tyrosine doubled the excretion of the acid; that phenyl-acetic and phenyl-amido-acetic acids had no such influence; that oil of turpentine, kephir, and castor oil, although lessening the combined sulphates of the urine due to lessened putrefaction in the alimentary tract, had little or no influence on the amount of the homogentisinic acid. On administration of the acid by the mouth about seventy-five per cent. was excreted in the urine. Another point noted in the urine of this patient was the abnormally low excretion of uric acid. A second series of experiments performed on healthy men and animals showed that on the administration of the acid (by mouth in man and by subcutaneous injection in dogs) the urine assumed all the characters of the urine of alkaptonuria, the amount of acid recovered in the urine being considerable, but, nevertheless, indicating that some had been destroyed in the living tissues.

A case reported by Henry V. Ogden (15), of Milwaukee, in 1895, is of special interest, as it is one of the three cases of alkaptonuria that have been published so far by American observers. The patient was a man forty-five years of age and apparently in good health. The urine presented the general characteristics of the case of alkaptonuria described by Marshall. Homogentisinic acid was demonstrated in the urine, and Ogden found that about five grammes were excreted daily. A marked diminution in the uric-acid excretion was also determined.

Other cases of alkaptonuria have been reported by Baumann and Kraske (16), Baumann and Fränkel (17), Garnier and Voirin (18), Slose (19), and Moraseewski (20).

A case reported by Geyger (21) is peculiar, in that the urinary changes lasted for one day and then disappeared, returning again on a subsequent occasion. The patient also had glycosuria.

Stange (22) has reported a case in which, from the large amount of homogentisinic acid excreted, the patient complained of great irritation throughout the genito-urinary tract, particularly during micturition. A herpes genitalis was produced as a result of the irritating effect of the urine.

Hirsch (23) records an interesting case of alkaptonuria appearing during the course of an acute gastro-intestinal catarrh in a girl seventeen years of age. The condition was temporary, lasting only three days.

A case has been recently recorded by Ewaldstier (24) in which he was led to believe that the homogentisinic acid, in addition to being excreted in the urine, was also present in the abundant cerumen excretion of the ears. The cerumen was very dark brown in color. The ether extract from the cerumen turned dark in the presence of NaOH, and reduced ammoniacal silver solutions. Sufficient cerumen could not be obtained to definitely demonstrate the presence of the acid.

The case of the patient who came under my personal observation, and whose urine I am able to demonstrate to you to-day, is, so far as I can ascertain, the fourth that has been observed in this country. The history of the case is briefly as follows:

Early in March, 1896, Dr. Osler was consulted by a robust, healthy-looking patient, a man fifty-seven years of age. He stated that he had repeatedly made application to insurance companies for policies on his life, but that he had been each time rejected by the medical examiners of the companies, owing to the presence of sugar in his urine. Being naturally much concerned about his condition, he consulted an eminent German and two well-known English specialists, all of whom told him he was suffering from diabetes. He went to Carlsbad, and was there treated for the disease. He had not had any of the usual symptoms of diabetes, such as intense thirst, large appetite, emaciation, and polyuria. It was at this time that Dr. Osler ordered a specimen of urine to be sent to me for examination.

Having been informed that the specimen of urine was from a patient believed to be suffering from diabetes, I was at once struck with the peculiar color of the urine, as I had never before seen a specimen so deeply pigmented. The urine had a deep reddish-brown color and possessed a peculiar, slightly aromatic odor. It was free from sediment. The reaction was distinctly acid, and specific gravity 1.023. There was no albumin.

On the addition of a few drops to a quantity of boiled Fehling's solution in a test tube, the latter was immediately turned an inky, brownish-black color, and on further boiling there was a distinct reduction of the copper sulphate. The precipitate was of a lighter yellow color than that usually produced by diabetic urine, and the supernatant fluid did not become decolorized but retained the brownish-black color already described. I was at the time suspicious of the reaction, as I had never seen glucose act in a similar manner.

Further tests for sugar were then made.

With the fermentation test there was no CO_2 evolution after twenty-four hours. There was no reduction of bismuth in applying Bötger's test. No crystals of phenylglucosazone were formed in von Jaksch's phenylhydrazine test.

The urine was optically inactive, there being no deviation of the rays of polarized light in either direction.

There was no reaction for bile.

Microscopical examination was negative beyond the presence of a few squamous epithelial cells and mucous cylindroids. It was noticed that the urine was much darker in color the day after than on the day it was sent.

The question to decide was, "Did this urine contain sugar?" From the reactions given, I felt rather firmly convinced that there was none present. The only test in favor of the presence of glucose was the Fehling's copper test, and this was not characteristic. On the other hand, opposed to the view that sugar was present was the failure of the fermentation, bismuth, and phenylhydrazine tests, and the failure of the urine to rotate the rays of light to the right. I accordingly communicated to Dr. Osler the reactions found, and stated that I did not believe there was any sugar present.

What, then, could have given the urine this peculiar color and caused the singular reaction with Fehling's solution? In looking up the subject I found that the reactions already described were exactly those of Boedeker's alkaptonuria. I found, further, that when a few drops of liquor potassæ were added to a test tube of the urine the reddish-brown color of the latter suddenly deepened, and that, when allowed to stand, the color was deepest at the surface and extended gradually into the urine below. A test tube of ordinary urine when exposed to the air for twenty-four hours became deeply pigmented at the surface, the amount of urine thus involved being greater the longer it was allowed to stand.

I was now convinced that the case was one of "alkaptonuria."

It was later learned that this patient was a brother of the patient in whom Marshall had found similar reactions, which he believed to be due to glycosuric acid.

The urine in this case was not examined again until May 25, 1897, when a second specimen was obtained through the kindness of Dr. Osler. The reactions which I demonstrate to you to-day are with urine obtained on this date. The urine had been saved for forty hours, the amount voided during this period being seventeen hundred and sixty cubic centimetres. The color was as on first examination, and deepened markedly on standing. Reaction, acid; specific gravity, 1.020. The urine gave all the reactions that were obtained with the first specimen. The following two tests were also applied:

When a few drops of the urine were added to a solution of silver nitrate in ammonia the silver was instantaneously reduced in the cold and was deposited on the sides of the test tube, thus forming a distinct mirror.

A solution of the chloride of iron was turned a bluish-green on the addition of a few drops of the urine. The bluish-green color almost immediately disappeared, however.

Both these reactions were found present in the majority of the cases already recorded.

Although I have not yet had an opportunity to determine definitely what the special substance is which gave the peculiar reactions in this urine, yet there is practically no doubt but that this urine is a specimen of alkaptonuria. With due care in carrying out the conformatory tests there should be little difficulty in distinguishing a case of alkaptonuria from one of glycosuria.

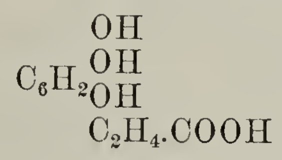
Both the urea and uric acid were estimated in this case. In both instances the total amount for the forty hours was determined, and the quantity for the twenty-four hours calculated from this.

The quantity of urea (hypobromite method) for the twenty-four hours was 24.28 grammes, and of uric acid (Hopkins's modification of the Fokker-Salkowski method) 0.4899 gramme. Both were thus near the lower limit for normal. In some of the cases reported it will be remembered that the uric-acid excretion had been found markedly diminished.

The chief characteristics of the urine in the condition known as alkaptonuria may then be summarized as follows: The urine is usually from a straw- to an amber-yellow color when first voided, assuming a gradually increasing reddish-brown color on exposure to the air, owing to the absorption of oxygen. The specific gravity under ordinary hospital diet varies between 1.010 and 1.014; with excessive meat diet, 1.014 to 1.020. The average quantity excreted daily while on the former diet is about two litres, and while on the latter diet 1.5 litre" (Baumann). On the addition of a few drops of an alkali to the urine and then shaking, the assumption of the reddish-brown color is almost instantaneous. Fehling's copper solution is reduced on the application of heat. The urine does not respond to the bismuth, phenylhydrazine, fermentation, or polariscope tests for sugar. It reduces ammoniacal silver-nitrate solution in the cold and causes a bluish-green color on being added to ferric-chloride solution, the color usually being only temporary.

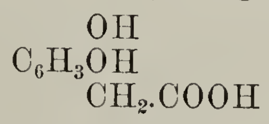
Alkaptonuria can not be said to be a disease, but is merely a condition which may appear in a variety of affections. It apparently has no pathological significance and is without influence on the health of the subjects. It is well to remember, however, that in at least one case, that of Geyger, it was found associated with glycosuria. It occurs both in children and in adults. In some cases it has existed from childhood throughout life, as in Baumann's case. An interesting feature of alkaptonuria is that quite frequently more than one member of a family is affected. Thus, Kirk found four children affected in one family. Baumann's patient had a sister with the same condition, while my own patient was a brother of the patient who came under Marshall's observation.

Kraus (25) states that the reactions in alkaptonuria are due to the occurrence in the urine of either trioxyphenylpropionic acid (uroleucinic acid),



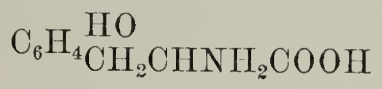
$$C_6H_2\begin{array}{l}OH\\OH\\OH\\C_2H_4.COOH\end{array}$$

or of dioxyphenylacetic acid (homogentisinic acid),



$$C_6H_3\begin{array}{l}OH\\OH\\CH_2.COOH\end{array}$$

both of which are derived from tyrosine (paraoxyphenyl-α-amidopropionic acid),



$$C_6H_4\begin{array}{l}HO\\CH_2CHNH_2COOH\end{array}$$

Baumann and Wolkow believe that there may be other substances than uroleucinic and homogentisinic acid which give the reactions characteristic of alkaptonuria. They believe that the homogentisinic acid which they isolated from the urine in their case was produced in the intestines from tyrosine by the action of special micro-organisms of the nature of a yeast fungus. Embden, it will be remembered, threw some doubt on this view.

As to treatment, there is nothing to be done, as the condition is of no pathological significance.

Alkaptonuria is of importance, however, owing to the liability of its being mistaken for glycosuria. Notwithstanding the fact that the urine reduces Fehling's solution, the peculiar behavior of the reaction should place one on his guard. The negative results with the bismuth, fermentation, phenylhydrazine, and polariscope tests should at once rule out glycosuria.

Bibliography.

1. Boedeker. *Zeit. f. ration. Med.*, Bd. vii, 1859, S. 130; and *Annal. der Chem. u. Pharm.*, cxvii, 1861, or new series, xli, 98.

2. Fürbringer. *Berl. klin. Wochenschr.*, 1875, Nos. 23 u. 24.
3. Ebstein u. Müller. Virchow's *Archiv*, Bd. lxii, S. 554, 1875.
4. Baumann. Pflüger's *Archiv*, Bd. xvi, S. 63.
5. Salkowski u. Leube. *Die Lehre vom Harn*, Berlin, 1882, S. 146.
6. *Dublin Jour. Med. Sciences*, 1882, vol. i, p. 465.
7. Kirk. *Brit. Med. Jour.*, 1886, vol. ii, p. 1017.
8. Marshall. *Med. News*, vol. l, 1887, p. 35.
9. Barton Brune. *Boston Med. and Surg. Jour.*, vol. cxv, 1886, p. 621; and vol. cxvi, 1887, p. 83.
10. Kirk. *Jour. of Anat. and Phys.*, vol. xxiii, 1889, p. 69; and *Brit. Med. Jour.*, 1888, vol. ii, p. 232.
11. Baumann u. Wolkow. *Zeit. f. phys. Chemie*, Bd. xv, 1891, S. 228.
12. Baumann. *Zeit. f. phys. Chemie*, Bd. xvi, 1892, S. 268.
13. Embden. *Zeit. f. phys. Chemie*, Bd. xvii, 1893, S. 182.
14. Embden. *Zeit. f. phys. Chemie*, Bd. xviii, 1894, S. 304.
15. Ogden. *Zeit. f. phys. Chemie*, Bd. xx, 1895, S. 280.
16. Baumann u. Kraske. *Münch. med. Wochenschr.*, 1891, No. 1.
17. Baumann u. Fränkel. *Zeit. f. phys. Chemie*, Bd. xx, 1895, S. 219.
18. Garnier et Voirin. *Arch. de physiologie* (5), tome iv, 1892, p. 225.
19. Slose. *Annal. publ. par la Soc. roy. des sciences méd. et natur. de Bruxelles*, t. iv, 1895.
20. Morascewski. *Cent. f. innere Medicin*, 1896, Bd. vii.
21. Geyger. *Pharmac. Zeit.*, August 6, 1892.
22. Stange. Virchow's *Archiv*, Bd. cxlvi, 1896, p. 86.
23. Hirsch. *Berl. klinische Wochenschr.*, October 4, 1897.
24. Stier. *Inaugural-Dissertation*, Berlin, 1897.
25. Kraus-Lubarsch and Ostertag, Bd. ii, p. 633.

NEURORETINITIS.*

By A. T. MUZZY, M.D.

Two cases that have come to me since the last week of September lead me to present to you the subject of neuroretinitis. The insidiousness of the onset, the gravity of the result, and the close relation of the local condition through causation to the general system gives the topic interest. Every one will or has already met it. Two forms are described—one with lesions of the disc and retina quite apparent at the very outset with the ophthalmoscope, named papillitis, and the other, neuroretinitis, with only functional symptoms and, at first, no lesions discernible with the ophthalmoscope.

There has been and still is considerable liability to confusion in undertaking the study of this affection from the many titles that are employed by different writers—papillitis, choked disc, descending neuritis, retrobulbar neuritis, neuroretinitis, and optic atrophy being the principal ones. This confusion arises from the undue importance which different writers put on some one or other symptom or phase of the disease. Choked disc should be confined to simply an ophthalmoscopic appearance, and optic atrophy is a resultant condition independent of the process by which it has been brought about. Retrobulbar neuritis, on the other hand, is a definite and complete process, and is used to represent a form where the process is supposed to affect the optic nerve between the globe and the sphenoid fissure, or perhaps the chiasm. The most comprehensive term, however, is our title, neuroretinitis. Sometimes the disease appears as a distinct condition; more frequently, it is but one of a number of symptoms in a larger or general disturbance of the system. As a symptom, it may be the first one to show the approach of the general disturbance. This is not always nor even the most frequent order of its appearance. Thus, in syphilis it comes quite late in the order of tissues and organs affected; and even when it is a symptom of disease of the nerve centres its advent is quite uniformly secondary. But in the case of uræmic poisoning, when not the first, it is (perhaps always) an early symptom. Where it occurs in diabetes and the acute febrile diseases, typhoid fever, scarlet fever, variola, diphtheria, meningitis, etc., it is secondary.

Where the process is in the nerve near the globe (retrobulbar neuritis) the field is but slightly if at all contracted (except many times a central scotoma), the entire extent fading out together—subnormal color perception also existing. Where the condition is a descending process, large contractures of the field are soon made out with the perimeter, certain other portions retaining until late some even fair vision. The ophthalmoscopic picture is the same for both forms. Early there is an uncertain blurring of the edges of the disc, with perhaps some tortuosity of the veins. Late, there is the usual brilliantly white appearance of atrophied nerve head. If the process has been chronic, a peculiar cribriform appearance of the disc exists. The course may be moderately rapid, or linger on for a long period with final return to health.

The causes are: Toxic, such as alcohol, lead, and nicotine; menstrual disturbances, especially suppression; rheumatism, malarial infection, the acute febrile diseases, and overwork.

So much for a condensed statement of the main points in our subject, gathered from a limited experience and from leading authorities.

Now, against this pattern I wish to place the two cases referred to at the outset (a third case has come under notice since beginning my paper), and one reported by Dr. Dunn, of Richmond, Virginia.

Case I.—September 25th. Mrs. E. W., aged twenty-nine years; gives a good history; is quite fleshy, but of fine health. Courses always irregular, and before last month none for ten months. Three months ago, after severe vertex headache, suddenly noticed dimness one evening while reading; the eyes became bloodshot for a while; the mist was at first a fiery cloud with square diagrams like oilcloth. This color continued until two weeks ago, when it changed to a dark brown, especially the left.

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* Read before the Society of the Alumni of the City (Charity) Hospital, October 13, 1897.

Examination showed small responsive pupils. Ophthalmoscope: The fundus is made out with difficulty. Right: hypermetropia, 1.75 D.; some astigmatism; fundus rather light yellow; no special abnormity of disc; vessels normal, no hæmorrhage. Left: hypermetropia, 1 D., otherwise same as right. V. R., $\frac{17}{200}$; L., $\frac{3}{200}$; photophobia; sees best in the dark.

October 9th.—Two weeks later. Has been under strychnine injections for four weeks with Dr. Thompson at Manhattan Eye and Ear Hospital. Began with seven minims, and is now taking twenty-five minims daily. She says she did not notice much reaction until she reached twenty minims, but the toxic effects are now very marked, spasm of the neck and other muscles taking place, and the effects lasting three hours before she can walk with any confidence. Vision same as before. Right field normal; left is slightly constricted, if any, along the nasal and inferior border. She says cloud is to-day lighter, like gray dust, with occasionally scintillating points.

Case II.—September 30th last. Mrs. L. M., aged thirty years, with good family history. Family physician says she is full of malaria. She states that she has had no courses since marriage six years ago. One year ago, after severe vertex and frontal headache, noticed beginning mist, which appeared first in right eye. The mist is usually white, though for a while with eyes shut it was pink. The head still feels sore and bruised, especially over the occipital region. Examination shows dilated pupils that respond, the right a very little and the left quite fairly. Vision R., 0; L., $\frac{12}{30}$, momentarily and eccentric. Field, as per chart, shows contraction to a third in the lower segment, rising nowhere above the point of fixation. Ophthalmoscope: Right, + 40″, veins of normal size, arteries perhaps a little small. At the outer edge of the disc there is a large clot from a hæmorrhage. The disc itself is white, with sharp-cut edges; no other abnormities of the fundus. L., no hæmorrhage, only a disc that is quite pale with sharp outline. Was put on strychnine, one one-hundredth of a grain every day. Four weeks ago consulted Dr. May at the Vanderbilt Clinic, and was urged to undergo strychnine injections. Was also examined for uterine and kidney condition, and pronounced all right.

October 7th, one week later, V. R., 0; L., $\frac{12}{10}$, not so momentarily as at first examination. Right pupil quite motionless. Says she needs bright light to see.

We have here two young married women with good family histories and no special sickness or accident, who, after from three months' to six years' suppression of menses, are attacked with severe general headaches followed by blindness, beginning in one eye, soon followed by the same process in the other. The ophthalmoscopic picture in the more recent case is negative, while in the other signs of atrophy are quite apparent. The distinctions are a greatly contracted field in the one case, with fair vision remaining in part, no photophobia, and need of good light to see. In the other, no contraction, but a uniform dimness over whole field, with sensitiveness to bright light.

In both there is thus doubtless a condition of optic neuritis. In one the process is retrobulbar, and in the other a neuroretinitis or descending, as shown by the contracted field.

In the *New York Medical Journal* of August 9, 1890, Dr. Dunn, of Richmond, Virginia, reported the case of a reflex neuritis from a blow on the right eye by a snowball in the winter of 1886. The spring following the blow there were severe neuralgia of the brow and soon fading vision, pain of the eyes, with nictitation and tears. This continued until April, 1889. The perimeter showed considerable uniform contraction of the visual field. On April 12th the right supraorbital nerve was cut subcutaneously, with prompt relief, not only of the neuralgia, but also of the neuritis, the field expanding to the normal extent.

In closing, I wish to draw attention to the fact that while the text-books say nothing about pain and headaches, my last three cases, this reflex case, and the majority of those recorded in the journals, make much of a primary and severe headache; and I would also ask if any have points on the relation of menstrual suppression to this trouble; points of prognosis and methods in the use of the strychnine, which seems to possess a lonely and none too promising place in the treatment.

100 East Fifty-seventh Street.

AN UNUSUAL CASE OF APPENDICITIS.*

By RAMON GUITÉRAS, M. D.

We very often hear of cases of appendicitis being confounded with diseases of the tubes and ovaries in women, especially when these latter diseases occur on the right side. The symptoms of these two diseases are at times so identical that various authors have written upon their similarity, and cases have often come under my observation where the gynæcologist in the case and I have been at variance, both being equally sure of our diagnosis.

That appendicitis in the male should be confounded with a disease of the genital tract had never occurred to me, although I have often thought that disease of the urinary tract might be, as the right ureter passes through the region occupied by the appendix, and is almost, if not quite, in contact with it in the iliac region.

The case that I am about to relate, however, will show how closely appendicitis in the male may resemble a disease of the genital tract (although a rare one) by the comparison of a case of seropurulent cyst of the right seminal vesicle with a case of pelvic abscess due to appendicitis.

In noting the resemblance between the two cases, my object is simply to show how one may at times be led astray. And I shall not attempt to make a differential diagnosis between the two troubles, as, while the first case which I will relate is an unusual form of an uncommon disease, the second is an unusual form of a common disease.

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* Read before the Society of the Alumni of the City (Charity) Hospital, October 13, 1897.

Some time ago, during my service at the French Hospital, a young man, twenty-four years of age, presented himself with a tumor in the lower part of his abdomen, of about the size of an adult head. His history was briefly as follows: He had always been well up to about nine months ago, when he began to have severe attacks of pain in the abdomen at intervals, accompanied by difficulty in breathing. About a month before, and ten days after the last attack, he first noticed the tumor, which was then small, but had been increasing rapidly in size since then. This had caused him no inconvenience at first, but recently had given rise to a heavy dragging feeling, accompanied by a general feeling of malaise, although the functions of his various abdominal organs were intact, and the pressure of the tumor had not interfered with the powers of urination or defæcation.

On inspecting the tumor, it seemed to spring out of the pelvis, and resembled an enormously dilated bladder or a gravid uterus in the seventh month of pregnancy. Palpation showed it to have a tense and elastic feeling. It was flat on percussion. Emptying the bladder by catheter did not change the character of the tumor. An aspirating needle inserted in several points drew out a fluid, thin and clear in some places, and thick and pea-soupy in others. The fluid contained pus. Rectal examination showed a tumor tightly wedged into the floor of the pelvis, and conforming in shape to its cavity. The prostate and seminal vesicles could not be made out with distinctness. On cystoscopic examination, the instrument was deviated to the left, and the left ureter could be seen secreting normally, but the right one could not be brought into view. An incision eight inches long was made into the abdomen, which allowed us to see the tumor coming from behind the bladder. The tumor was opened, and about three quarts of seropurulent fluid was siphoned out. Elliptical pieces were then taken out of the lateral walls of the tumor, and the remainder of the cyst wall was made fast to that of the abdomen and drained. The sinus closed in about a month, when a rectal examination revealed a thickening extending upward from the prostate along the posterior wall of the bladder on the right side, and occupying the region of the right seminal vesicle. This was a very rare case, evidently a seropurulent cyst of the right seminal vesicle, and was reported by me as such in the London *Lancet*.

With the history of such a case fresh in my mind, it is not surprising that I should have been somewhat led astray in considering the following case:

An Italian laborer, twenty-five years of age, presented himself at the Columbus Hospital with a well-defined tumor in the lower abdomen, of the size of an adult head. His history was briefly as follows:

He had never been ill until about a year ago, when he had an attack of pain and swelling in the hypogastric region, accompanied by some fever and diarrhœa, which lasted for about a week. About two weeks ago he again had an attack of pain in the hypogastric region, accompanied by a diarrhœa. He then noticed that there was a swelling in the lower part of his abdomen, which had increased rapidly in size, and was accompanied by pain and a dragging feeling. The tumor had continued to enlarge up to date, and, although it did not cause sufficient pressure to interfere with the passage of urine and fæces, yet it caused him to feel weak and sick.

On inspecting this tumor, it also seemed to spring out of the pelvic cavity and to extend up into the abdomen like a largely dilated bladder or gravid uterus, and corresponded in form and appearance to the one described in the former case. It felt tense and elastic on external palpation. It was tympanitic on percussion. An aspirating needle showed it to contain a yellowish fluid pus. On passing an instrument to explore the urethra and bladder, it was turned to the left, showing the bladder to be squeezed over to that side. Emptying the bladder had no effect upon the tumor. A cystoscopic examination was not made, as it was clearly evident that the tumor was outside of the bladder, and the patient had been sent in for operation. Rectal examination showed the pelvis to be filled with a large tumor, which could be forced down into its floor when the patient strained. The lower border of the prostate was well defined, but the upper border and the region of the seminal vesicle and bladder were masked by the tumor. The patient's temperature was 100.8°; pulse, 52; urine, high-colored, acid; specific gravity, 1.024; no albumin, no sugar; microscopical examination negative.

Here was a case almost identical with the first one cited. Both had a history of former gastric or intestinal trouble, although this had been more frequent in the case with the genital trouble. The former patient had noticed his tumor one month before entering; the latter, two weeks before. It is doubtful, however, if this part of the history is accurate, as the enlargement and character of the wall of the tumor in each would show that they had existed longer than the time mentioned. The result of rectal examination was about the same in both cases. The percussion note was different, the former being flat, the latter tympanitic. The tympanitic resonance, however, might have been accounted for by gas in the intestines in front of the tumor, which could easily happen in a case where the lower bowel was so pressed upon. The temperature was normal in the first case and slightly elevated in the second, which might have been expected, as it was a more acute process. It was evident that in the latter case the tumor was full of pus, but that did not explain its origin or position.

An incision was made in the median line below the umbilicus. The cyst wall was opened, allowing a large amount of pus to escape. The enlargement was seen to be an intraperitoneal abscess. A careful examination of the abscess cavity showed that it had doubtless been caused by the appendix having been displaced downward within the pelvis in the median line, where it had formed an abscess, which had developed in such a way as to produce the large cyst between the rectum and the bladder that had grown from this point up beyond the umbilicus. The tympanitic note on percussion was not due to small intestines in front of the tumor, but to gas within its walls that had come through the hole in the perforated appendix from the intestines. The temperature was due to the suppurative process.

The abscess cavity was washed out with peroxide of hydrogen and packed with iodoform gauze. The cavity was washed out and packed once a day.

The patient's general condition did not improve after the operation, and five days later he was seized with septic pneumonia and died.

Autopsy.—I will here simply speak of the abdominal region, and not of the lungs and other organs.

The peritonæum outside of the abscess cavity seemed to be free from inflammation. Coils of small intestine were adherent to the abdominal incision. The abscess cavity had nearly disappeared by the collapsing of its walls. The pelvis was lined with pyogenic membrane roofed in by coils of ileum. The appendix communicated directly with the abscess cavity, and a probe could be passed from the large intestine above down into this cavity. The cæcum and the bladder were normal.

What have we learned from the recital of this case in connection with the preceding one? 1. We have learned that an appendicitis in the male may resemble a genital disease as well as in the female. 2. We have learned that appendicitis is capable in a short time of producing a well-defined tumor occupying the central portion of the pelvis and abdomen, which does not resemble an abscess, and which, in this case, was not and had not been associated with any symptoms in the right iliac region. 3. We have learned that an opening in the rectum in this case of appendicitis might have been more efficacious and less dangerous than the abdominal incision, as it would have allowed the escape of pus, intestinal gas, and fæcal matter by a more natural channel.

23 West Fifty-third Street.

A STUDY OF SEVENTEEN CASES OF A DISEASE CLINICALLY RESEMBLING TYPHOID FEVER, BUT WITHOUT THE WIDAL REACTION;

TOGETHER WITH A SHORT REVIEW OF THE PRESENT STATUS OF THE SERO-DIAGNOSIS OF TYPHOID FEVER.

By N. E. BRILL, M. D.

(*Concluded from page 54.*)

Case IX.—Herman S., aged twenty years; nativity, United States; occupation, porter; was admitted on September 12, 1897. His family history, as well as previous history, were negative. The present history is of three days' standing; it began with headache, fever, chill, loss of appetite, malaise, and general weakness. There was no epistaxis; there was nausea, but no vomiting; the bowels are constipated. He complains principally of general body tenderness and weakness. No cardiac, pulmonary, or urinary symptoms. General condition poor, but he is well nourished; tongue dry and furred, with red tip and edges. The patient is very somnolent. Lungs anteriorly, negative; posteriorly, a few sonorous râles. Heart: dullness extends from lower border of third rib to upper border of sixth rib, and from midsternal line to just within nipple. Apex beat in fifth space, regular and of ordinary force; rough systolic murmur over pulmonic area; pulse slow and regular. Liver extends from fifth space to two fingers below free border. Spleen enlarged to percussion and felt. Abdomen: a few typical spots here and on chest; no tenderness.

On admission the temperature was 102.2° F., the pulse 104, and the respirations were 28. He was given a sponge bath and was put on sterilized fluids. An ice bag was applied to his head. The temperature gradually rose to 104.4° F., which was reached at 8 P. M. It then began to fall and in the morning of the following day was 100.8° F. His urine was normal.

On September 7th the morning temperature was 100.4° F., remaining at that mark during the whole day, but declining at night to 99° F., which degree was reached at midnight.

On September 8th he had diarrhœa; the temperature was normal the whole day. His tongue was moist and coated, the pulse was slow and slightly dicrotic. The spots on the abdomen and chest have vanished. The mental condition was clear and the appetite had returned. He complained of being hungry.

He was discharged on September 11, 1897.

Case X.—Nathan B., aged twenty-eight years; born in Austria; occupation, tailor.

September 7, 1897.—Family history negative; previous history, no gonorrhœa or syphilis.

Present history one week's standing; began with headache, pain in left side, and, later, general body tenderness. No epistaxis. One week previous to admission had diarrhœa (three or four stools daily). Appetite gone. Nausea, no vomiting. No cardiac, pulmonary, or urinary symptoms. At present complains only of an intense headache and of weakness.

General condition good, well nourished; *tongue* moist and slightly coated. Lungs, anteriorly, negative; posteriorly, sonorous and sibilant râles. Heart extends from lower border of third rib to upper border of sixth rib, from midsternal line to just within nipple line. Apex beat in normal position, circumscribed, and of normal force; no murmur; pulse slow, soft, and very slightly dicrotic. Liver extends to just below free border of ribs. Spleen enlarged to percussion and felt. Abdomen: here and over chest are numerous roseolar spots; slight tympanites.

On admission his temperature was 102° F., his pulse 103, and respirations were 32. He was given a sponge bath and put on sterilized fluids. His temperature rose gradually and reached, at 8 P. M., 102.8° F.

The urine was acid, the specific gravity being 1.020; it contained no albumin.

On the following day his tongue was still dry and furred, but his headache disappeared. His spleen could still be felt, but the roseolar spots had become almost indistinguishable. The patient felt well and wished to get up. The temperature in the morning of this day was 98.6° F., and it rose to 100.2° F. in the evening.

On September 11th the temperature was normal throughout the entire day.

The patient was discharged on September 12, 1897.

Case XI.—Jacob S., aged eighteen years; born in Russia; occupation, carpenter. Admitted to service of Dr. Manges on September 9, 1897. His family history is negative. The previous history shows moderate alcohol and tobacco habits; he never had any other disease, and denies having had gonorrhœa or syphilis.

The present history is of eight days' standing; it began with headache, prostration, and general malaise, also intense pain in the bones. Slight epistaxis two days ago. No chill, but continuous fever since onset; Appetite lost; no nausea; no vomiting; bowels constipated; no cardiac, pulmonary, or urinary trouble. The general condition is fair. The patient is fairly nourished; tongue dry and coated, with red tip, down centre, and around edges. Lungs, nothing abnormal. Heart: area normal, apex beat in the fifth space, just within the nipple line. It is diffuse, of fair force, and with slight systolic thrill. Second sound at apex prolonged. Vessels full, pulse of some tension. Spleen not enlarged to percussion nor felt. Abdomen: here and on back some *typical erythematous macular spots.*

On admission his temperature was 102.2° F., his respirations were 30, and pulse 110. An hour later his temperature rose to 103° F., and two hours after this it reached 103.4° F. During the remainder of the day it was around the 102.2° F. mark. Routine typhoid-fever treatment was ordered. The examination of the urine gave negative results.

On September 10th the urine is negative; the temperature ranging between 100.2° F. and 102.4° F.

12th.—Morning temperature, 99° F.; evening, 101° F. Pulse varied from 74 to 94 beats.

13th.—The morning temperature was 99.4° F.; the evening, 100° F.

14th.—Normal temperature throughout. The patient was discharged well on September 17, 1897.

Case XII.—Herman G., Roumanian, admitted September 14, 1897, service of Dr. Brill.

Family history negative.

Previous history negative.

Present history of nine days' standing; began with headache, chill, and fever, attended by intense general weakness and malaise. During this entire time the symptoms have remained the same. Appetite is lost; digestion poor; nausea, but no vomiting.

General condition fair, and he is well nourished. Tongue somewhat dry, furred down centre with red edges and tip. Lungs anteriorly and posteriorly, a few sibilant râles; marked left scoliosis. Heart: dullness extends from upper border of third to lower border of fifth ribs, and from midsternal to just within mammary line. Apex beat in fifth interspace, is circumscribed and forcible. Slight roughening of first sound over pulmonic valve. Pulse regular, soft, and slightly dicrotic. Spleen enlarged to percussion and felt below free border of ribs. Abdomen, as well as back and on chest, *profuse roseolar eruption,* like typical typhoid roseola.

On admission this afternoon, temperature, 103.2° F.; respirations, 26; pulse, 118.

September 14th.—Given a sponge bath. 5 p. m., temperature, 102.2° F.

15th.—11 a. m., temperature, 101.4° F. 5 p. m., temperature, 101.4° F.

16th.—Temperature normal and convalescence established.

17th.—Spleen still palpable, pulse soft and regular. This morning the spleen was aspirated by Dr. Brill under most rigorous aseptic precautions. In the afternoon patient was permitted to sit up and was given full diet.

18th.—Normal temperature throughout.

19th.—Patient discharged cured. Duration of disease, twelve days. Length of time in hospital, six days.

A culture was made of the fæces of this patient and showed no typhoid bacilli. The blood which was aspirated from the spleen was also subjected to culture media, as was stated in the body of this paper, and showed colon but no typhoid bacilli.

Case XIII.—Hyman F.; born in Russia; aged thirty-one years; occupation, peddler. He was admitted on September 19, 1897. His family history is negative; his previous history shows that he never had gonorrhœa or syphilis, and that he indulged moderately in alcohol and largely in the use of tobacco. He had typhoid fever sixteen years ago.

The present history is of eight days' standing; it began with pain in head, constant and severe; fever, chill, and general weakness. The bowels were constipated, the urine high colored, and there was pain in the abdomen over the region of the spleen. No cardiac, urinary, or pulmonary symptoms. No epistaxis. His general condition is poor; he is well nourished; the tongue is moist and very slightly coated. Lungs, anteriorly and posteriorly, negative. Heart normal; sounds full and strong. Liver extends from the fifth space to the free border of the ribs. Spleen enlarged to percussion and felt.

On admission his temperature was 102.6° F., respirations were 28, and pulse was 112. Typhoid treatment was ordered.

September 20th.—Patient complains of headache; tongue moist and coated. *A number of roseolar spots on abdomen.*

21st.—Tongue moist and glazed. A few spots on abdomen; pulse dicrotic. Spleen not felt. General condition good.

24th.—Full diet, out of bed.

26th.—Discharged, feeling perfectly well.

From September 19th to September 22d the temperature range was from 103.6° F. to 99.4° F. It reached the normal and remained there on September 22d.

Case XIV.—Rosa M., aged twenty-five years; born in the United States; is a student at Mount Sinai Training School for Nurses, and was under my care during the end of December, 1896, January, 1897, and February of the same year, when she was suffering from an attack of typhoid fever. Her present attack began on September 16, 1897, when she complained of lassitude, headache, and great prostration. These did not interfere with her work at the hospital until September 18th, on the evening of which day she had to take to bed. I was called to the training school to see her on the following day, and found her with a temperature of 102.4°. The preceding history was then elicited together with the following:

She had complained of general malaise, nausea, but no vomiting. Her bowels had been constipated for a few days. She gave no cardiac or pulmonary symptoms. Her headache is intense, and is her chief cause of complaint. Examination revealed the following: General condition good; well nourished. Tongue moist, coated with a thick fur. Face flushed, especially over malar prominences. Brows drawn together and corrugated transversely. Lungs, anteriorly and posteriorly, negative. Skin over the right shoulder is covered by a localized hæmorrhagic eruption. Heart: normal area of dullness; apex beat in fifth interspace, rapid, regular, and forcible. Pulse, rapid, regular, and of varying tension. Liver, normal area of dullness. Spleen enlarged and easily felt below costal margin. Abdomen slightly tympanitic and very tender. Slight roseolar eruption (five spots only) and none on the back. No œdema of the legs.

On this day the morning temperature was 101.4° F., the pulse was 94, and the respirations were 28; the evening temperature was 103.2° F., the pulse 100, and the respirations 28. A slight *epistaxis* occurred during the day, and her menses put in their appearance.

On September 20, 1897, the morning temperature was 101° F., and the evening temperature 103° F.

On September 21st the morning temperature was 101.8° F., and the evening temperature 103.4° F.

On September 22d the morning temperature was 100.8° F., the evening temperature 103° F.

On September 23d the morning temperature was 102.6° F., that of the evening being 101.4° F.

On September 24th the temperature ranged between 102° F. and 102.4° F. throughout the twenty-four hours.

On September 25th the morning temperature was 100.6° F. and rose to 103.6° F., which it reached in the evening.

On September 26th the temperature ranged from the morning to the evening between 103.6° F. and 103° F., respectively.

On September 27th the morning temperature was 100.2° F., that of the evening being 101.8° F.

On September 28th the temperature was again 100.2° F. in the morning, reaching 101.6° F. in the evening.

On September 29th there was a further diminution in the range of temperature, the thermometer registering 99.6° F. in the morning and 100.6° F. in the evening.

On September 30th the range of temperature was the same as on the preceding day.

On October 1st the temperature was normal throughout the entire day.

With the exception of the hæmorrhagic eruption on the right shoulder and a few papules on the abdomen, there was no other eruption to be noted anywhere.

This patient presented the Widal reaction throughout her previous typhoid up to and including some of the time of her second illness—*i. e.*, it disappeared during the second illness, and since then gives no reaction.

The most important abdominal symptoms in this case were tympanites and abdominal pains. Length of the disease, eighteen days. Length of time under observation, eighteen days.

It may be argued that this case was either a relapse of the original typhoid, with an interval of seven months between the original attack and the relapse, or that it was a second attack of typhoid fever occurring within seven months. Both views are untenable, however, if we accept the determined data relating to infection and immunity. In this connection it may be of interest to present our experience of the behavior of the Widal reaction in cases showing relapses from typhoid fever. Of these, there are in my notes five cases, four of which were reported by Dr. Elsberg, and the fifth was subsequent to this report admitted and treated in my wards at the hospital. In all these cases the reaction appeared very late in the disease—viz., one on the sixteenth day, one on the twenty-fourth day, one on the twenty-seventh day, one on the thirty-second day, and one on the thirty-seventh day.

I am at present inclined to believe that where the reaction appears very late one may expect that a relapse will probably develop. In all of these cases, excepting one, the reaction only persisted from twelve to sixteen days after its first appearance, when it disappeared entirely, to reappear again. In two it made its reappearance on the fourth day of the relapse; in two it did not disappear, but remained after convalescence from the relapse, and in one it did not appear in the relapse, but on the fourth day of the second relapse from which this patient suffered.

Case XV.—Samuel E., aged twenty-eight years; born in Russia; salesman. Admitted to service of Dr. J. Rudisch, to whom I am indebted for this history. He entered the hospital on September 22, 1897. He gave a negative previous history. His present history is of eight days' standing; it began with intense fever and general weakness. Patient had medical advice, was put upon fluid diet, and given antipyrine and quinine. Not getting better, he came to the hospital. He had no epistaxis; he had a slight hacking cough. Bowels regular. No cardiac or urinary symptoms. Complains principally of severe headache and pain in abdomen.

His general condition is fair, well nourished; the *tongue* is moist and heavily coated. His body is covered with pityriasis versicolor. On the abdomen, chest, arms, and lower extremities there is a well-marked "*tache bleuâtre.*" Lungs, anteriorly, a few sibilant râles; posteriorly, similar râles. Heart: a slight blowing systolic murmur over pulmonic area. The pulse is slow, soft, and slightly dicrotic. Liver extends from the fourth space to the free border of the ribs. Spleen enlarged to percussion and just felt. Abdomen: a number of typical roseolar spots present. Some tympanites. No œdema of legs.

On admission his temperature was 101° F., his pulse 108, and his respirations were 28. He was placed on sterilized fluids and given a sponge bath. In the evening his temperature rose to 103.2° F.

The urine was acid, of a specific gravity of 1.020, and contained no albumin.

September 24th.—Morning temperature was 101.2° F.; evening temperature was 102.2° F.

25th.—Morning temperature was 100.2° F.; evening temperature was 101.2° F.

26th.—Morning temperature was 98.2° F.; evening temperature was 100.4° F.

On September 27th the temperature remained normal all day. He was allowed to sit up, and on September 28th he was placed on full diet. He was discharged on the following day feeling perfectly well.

Case XVI.—Hannah R., aged twenty-two years; born in Germany; domestic. Admitted to service of Dr. Rudisch on October 10, 1897. Her family history is negative; her previous history is that she had diphtheria six years ago, and that she suffers constantly with vertigo and headache.

Her present history is of two weeks' standing, previous to which she had been troubled with headache. Her attack began with excessive vomiting, nausea, constipation, palpitation, and slight dyspnœa; she had fever and chills at intervals. No sweating, or expectoration of blood. There was considerable coughing, and pain in abdomen on deep respiration. The appetite was lost, and there was inability to retain food. Headache constant and severe.

Her general condition is fair; she is fairly nourished; *tongue* moist and coated. Lungs normal. Heart extends from upper border of the third rib to the lower of the fifth, and from the right margin of the sternum to the nipple line. Action regular. Second aortic sound accentuated. Pulse slow, full, and regular, and of good quality. Liver extends from the fourth space to the free border of the ribs. Spleen slightly enlarged. Abdomen negative; no œdema of legs.

On admission the temperature was 99.8° F., but rose quickly, and soon registered 102° F., about which mark it remained.

On October 11th the urine is acid, specific gravity 1.024, and contains no albumin, but a fairly large amount of indican; no diazo reaction was elicited. The temperature range was the same as on the preceding day.

On October 12th the morning temperature was 99.8° F.; the evening, 101.6° F. The low temperature was probably due to the action of kryofin, which was twice administered to-day.

On October 13th the spleen is still enlarged, the headache is persistent, and the temperature range, from morning to evening, was from 99.8° F. to 100° F. Kryofin was again given.

On October 14th the temperature was normal throughout the day.

On October 15th convalescence is fully established; the patient feels perfectly well. He was allowed to get up on the following day, and was allowed to go home on October 21, 1897.

CASE XVII.—Max C., aged nineteen years; born in Russia. Admitted in hospital to service of Dr. Rudisch on October 24, 1897. He gives a negative family history as well as a negative previous history.

The present history is of one week's standing; it began with headache, colicky pains in the abdomen, general weakness, and malaise. The bowels were loose—five movements daily—there was slight epistaxis. No cardiac or urinary symptoms; some cough. Pain is now severe in abdomen, and a feeling of distention is present. The appetite is gone. There is no nausea. He vomited once at the onset. The mouth is dry. The patient is very restless.

The general condition is fair; he is well nourished; the *tongue* is dry and devoid of epithelium. Lungs, anteriorly, sibilant râles over both sides; posteriorly, sibilant râles over both sides. Heart extends from the lower border of the third to the lower border of the sixth rib, and from the right sternal border to just within the nipple line. The sounds are of good force; no murmur; apex beat in normal position, forcible, and regular. Liver extends from the fourth space to the free border of the ribs. Abdomen held so rigid that an examination is impossible. Diffuse roseolar rash over body surface.

On admission the pulse, the respirations, and the temperature were 108, 24, 104.2° F., respectively. A sponge bath was given, and typhoid treatment ordered. The temperature fell gradually; at 11 P. M. it reached its lowest—viz., 101° F. The urine was negative. The temperature on the next day was 103° at 2 A. M., then dropped gradually to 100.4° at 11 P. M.

October 26th.—At 2 A. M. the temperature was 101.6°; fell slowly to 99.6° at 11 P. M. The tongue was still dry and glazed; tip red; the patient is dull and sick-looking. Pulse slow, regular, slightly dicrotic. A number of atypical spots appeared on abdomen. Only medicines given were whisky and salol. Respirations, 20 to 24.

27th.—The temperature was normal all day; pulse, 70 to 88. The tongue is becoming moist, though heavily coated. The atypical spots on abdomen still present. Spleen still enlarged to percussion. Headache gone, and general condition much improved. Pulse slow, regular, and still dicrotic.

28th.—The temperature was normal; patient stuporous and drowsy; the tongue moist, and still heavily coated; pulse soft and regular.

29th.—Normal.

30th.—Tongue coated; general condition better.

November 1st.—Full diet; out of bed this morning; urine negative; no Ehrlich reaction; no acetone reaction; no headache; patient comfortable, appetite good; tongue moist and coated in the centre. Red cells, 4,200,000; white, 4,650.

6th.—Condition steadily improving. Discharged cured on the 6th.

On October 27th cultures were made from the fæces of this patient. These were demonstrated to be the *Bacillus coli communis.*

The prominent symptoms of these cases tabulated in the order of their constancy are as fololws:

1.	Headache	in 16 cases.
2.	Enlarged spleen	“ 15 “
3.	Loss of appetite	“ 14 “
4.	Prostration	“ 13 “
5.	Roseola	“ 13 “
6.	Nausea	“ 12 “
7.	Constipation	“ 11 “
8.	Tympanites	“ 10 “
9.	Abdominal pain	“ 9 “
10.	Dicrotic pulse	“ 9 “
11.	Chill	“ 9 “
12.	Pain in back and legs	“ 8 “
13.	Vomiting	“ 4 “
14.	Diarrhœa	“ 4 “
15.	Chilly sensations	“ 4 “
16.	Epistaxis	“ 3 “
17.	Abdominal tenderness	“ 2 “
18.	Roseola with *tache bleuâtre*	“ 1 case.

None of these cases was fatal. It is therefore impossible to determine the morbid anatomy of this group.

That there may have been intestinal lesions of some sort may be inferred from the abdominal pains, the tympanites, the constipation in some and diarrhœa in others, and the abdominal tenderness.

Cases of typhoid fever have been reported in which there were no intestinal ulcerations either of the follicles or Peyer's patches. In one case of this kind, described by Cheadle,* cultures from the blood of the spleen and from the fæces showed typhoid bacilli. If the bacteriological findings in this case are correct and the results are as stated, his case can not be confounded with any of ours.

In a diligent search of the literature I can find no cases reported even analogous to ours. This search was, of necessity, confined to the literature of the past year and a half, the period in which the Widal reaction was demonstrated to have diagnostic significance.

From the absence of indican, acetone, and diacetic acid in the urine in these cases, we may assume, if their presence indicates that decomposition is going on in the intestinal tract, that the toxic agent is not the result of a decomposition of the intestinal contents.

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* Cheadle. A Case of Typhoid Fever without Ulceration of the Intestine. *Lancet*, 1897, ii, 254.

The blood of each of the seventeen cases here presented was examined for a reaction with a culture of the bacillus (coli communis) obtained from the fæces of two of the cases, and from the spleen (coli communis) in another case, and in no instance gave a reaction. In two of these cases the effect of the blood of the patient upon the bouillon culture of the coli obtained from the patients themselves was tried and showed no reaction.

From a general point of view these cases present almost the typical picture of typhoid fever, yet they differ in the following respects:

In typhoid fever there are premonitory symptoms of a few days' duration; in this group of cases there were none. Our cases show a history of from three to four days' standing before they come under the observation of the physician.

In typhoid fever there are lassitude and loss of energy; in the other cases there are general body pains of a severe type associated with these.

In typhoid there is no intense early prostration, as a rule, whereas such is common in these.

Typhoid is characterized by a gradually increasing daily rise in temperature. In the other group the rise is more sudden, and reaches its acme in from four to five days. In typhoid the highest temperature is reached in the second week of the disease. At the fastigium the temperature in typhoid makes but slight remissions, whereas in these cases there are excursive morning remissions of from two to three degrees Fahrenheit. In typhoid the temperature begins to fall at the end of the third or beginning of the fourth week, or later in protracted cases. The fall is then gradual, the descent, as marked on the chart, being steplike. In these cases the fall, in the largest proportion of those suffering, is sudden, and only in a few was the descent by lysis. In the latter the normal was reached on the third day after the fall began.

The tongue in typhoid is dry, brown, and furred, while sordes is not uncommon. In these the rule is that the tongue is moist and covered with a white coating. No sordes was observed.

Whereas all text-books have taught that the eruption in typhoid fever first appears on the abdomen, and is most extensively distributed there, such has not been my experience in the observation of this feature of the disease. I have found that the eruption appears first more frequently by far on the back between the scapulæ and over the loins than it does on the abdomen. In fact, so confirmed have been my observations in this respect that it is my custom now to look for the eruption first on the back. I usually find it there before it appears on the abdomen. Sometimes it never appears on the abdomen at all, while it is solely confined to the back. However, the distinctive mark of the typhoid eruption is its appearance in crops. No specific development in crops of roseola could be demonstrated in the group under discussion. In all other respects the eruption was identical with that of typhoid fever.

Abdominal tenderness is common in typhoid, and was not present in any marked degree in these cases. Nor is the tympanites as extensive, neither is it as distressing as in typhoid.

While the pulse in typhoid is, as a rule, dicrotic, this special quality of the pulse was observed in nine of these cases, and that not to a marked degree.

The most notable differences between the two classes of cases is the length of the disease. Typhoid fever, as a rule, runs its course in four weeks; ten to twelve days is the period consumed for this group of cases to run its course.

Emaciation is more extreme in typhoid fever than in this group.

Are we justified in calling these cases typhoid fever? To be so, two essential requirements must be filled: first, we must be able to find the typhoid bacillus in the patient's stools, in the intestinal tract, or in the blood from the spleen; secondly, the serum of these patients should show the positive reaction in a culture of typhoid bacilli. These requirements, it seems to me, are absolutely necessary to determine whether the patients have typhoid fever or not. In addition there is a third requirement: the clinical history must show a typical picture. It must not deviate from that, if we are to determine the nature of a disease alone from a recognized picture. We are not justified in making an absolute diagnosis of the presence of a disease where its clinical manifestations are modified, unless we bring to bear upon it the aid of pathology and bacteriology, so far as these sciences will aid in determining the nature of disease. We must, of course, rely for diagnosis on the clinical manifestations in those diseases whose pathology and bacteriology are unknown. But wherever the clinical manifestation of disease deviates from the standard clinical picture, a doubt will immediately arise as to the nature of the disease which presents itself, unless the disease can be determined and the diagnosis established by the aid of the other sciences referred to.

Applying these generalizations to the group of cases described, we find that these cases, while presenting a clinical picture similar to that of typhoid, differ in some respects from this picture.

Subjecting these cases to the examination of the laboratory, we find that they do not comply with any of the determined bacteriological features of typhoid fever in that, first, not one case showed the Widal reaction, which we have seen from our own experience was present in every single case of typhoid fever which was diagnosticated by its clinical manifestations, numbering eighty in the past year, and in 97.9 per cent. of nearly five thousand other cases reported by various authors.

Daily tests for this reaction in this group of cases were made in the hospital. After the patients left they returned periodically to have the test applied. Secondly, the examination of the fæces of three of these cases by the most approved methods, and more recently by the method proposed by Hiss,* failed to reveal the typhoid bacillus. Thirdly, the examination of the blood aspirated from the spleen of another of this group failed to reveal the presence of the typhoid bacillus in that organ.

The objection may be raised that these cases do not constitute a definite type of a disease with distinct characteristics, but are cases of abortive typhoid fever. Such an objection would appear to me to be unjustifiable and illogical, on the grounds stated before—that none of the cases presented the Widal reaction at any period during the disease or convalescence; that no typhoid bacilli could be found in the fæces, and none in the blood of the three cases examined for them. It is a matter of regret to me that cultures were not made from the fæces of each case, and from the blood aspirated from the spleen of each, but the resources of the Mount Sinai Hospital laboratory, however, were not sufficient, and I hesitated to put such a stupendous amount of work upon the pathologist and assistant pathologist, who were engaged in the other pathological and bacteriological work of the hospital at the time. Had I been then acquainted with Hiss's differential culture medium, this material would not have been lost. However, to repeat, not one of the cases showed the Widal reaction, and no typhoid bacilli could be demonstrated in the blood of the spleen and in the fæces of three of these cases, either by the usual method of culture or by Hiss's method. In addition, the clinical picture of these cases, while closely approaching that of typhoid fever, differed materially from it. On these grounds it seems to the writer that we may fairly assume that the patients under discussion were most probably not suffering with typhoid fever. The strongest evidence in favor of these cases constituting a distinct disease entity is the case of Miss M. (Case XIV), who was one of the training-school nurses, attacked with typhoid fever in December, 1896, and who, convalescent in March, was seized with an attack similar to the other cases in September of this year, just six months after her convalescence from typhoid fever. We can not reasonably assume that the last malady was a relapse of the original typhoid occurring seven months after convalescence, or that it was a second attack of typhoid fever.

On the other hand, short typhoid, or so-called abortive typhoid fever, cases that have been admitted to the hospital, and whose blood was examined (three in number), showed the Widal reaction in every case.

It is almost a matter of supererogation to indicate the points of differential diagnosis between *grippe* and this group of cases.

The former occurs pandemically, and is ushered in suddenly with intense backache and body pains. The prostration is the most important symptom. The course of the disease is shorter, the temperature ranges, as a rule, lower, and the pulse rate is higher. It is unaccompanied by roseola. In the gastro-intestinal form, vomiting and diarrhœa are the prominent symptoms. It is, perhaps, this form alone with which this group of cases might be confounded. *Grippe* is the disease *par excellence* of sequelæ and of slow convalescence. While the spleen in cases of *grippe* is enlarged, it is not so to the degree that it is in these cases. The catarrhal form is accompanied by involvement of the respiratory tract, by the development of pneumonias, and of the sequelæ, otitis media, keratitis, etc.

We come now to a more important element in our consideration: If this group is not typhoid (we are only justified in saying that it does not conform to the essential clinical and pathological requirements of this disease), how shall the cases be classified? A careful analysis of the blood and of the excretions failed to reveal any specific germ beyond the presence of that ubiquitous bacterium, almost always found under non-pathological conditions in the human fæces, the *Bacterium coli commune*. I do not regard the presence of this germ in the fæces as the causative factor of this illness.

In the want of more definite knowledge, we are compelled to satisfy our desire to give a name to this class of cases by calling it intestinal toxæmia, or intestinal self-intoxication, although not justified in so doing because of our inability to define the toxic agent, or to prove that there was a toxæmia, in the strictest sense of the word, present at all.

However, the object of this paper will be realized if it will have called the attention of the profession to an anomalous class of patients, which may come under its observation, and which may lead some of our colleagues, who are better equipped for pathological investigation than your reader, to indicate the cause and character of the disease process giving rise to the symptom-complex which characterize each individual case of this group.

A New Anastomosis between the Musculo-cutaneous and the External Saphenous Nerves.—Laffargue (*Journal de médecine de Bordeaux*, October 31, 1897; *Medical Chronicle*, November, 1897) describes a case in which the musculo-cutaneous nerve in the lower extremity, after dividing into branches, gave from the external of these a small bundle, which joined a similar branch of the external saphenous behind the fifth metatarsal bone.

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* P. H. Hiss, Jr. On a Method of Isolating and Identifying *Bacillus typhosus*, based on a Study of the *Bacillus typhosus* and Members of the Colon Group in Semisolid Media. *Journal of Experimental Medicine*, November, 1897.

I wish to express my obligation to Dr. A. Lambert, who made me acquainted with Dr. Hiss's work and culture medium before they were published, which permitted me to corroborate, by this approved method of distinguishing the typhoid bacilli from the bacilli coli, the results obtained by the older methods.

UPON CARBON DIOXIDE
AND ITS USE IN SOME FORMS OF STOMACH TROUBLE.

By L. H. WATSON, M. D.,
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Before considering carbon dioxide as a remedial agent in the treatment of stomach troubles, it may be best, perhaps, to view the therapeutic uses to which it has been put by those who have experimented with it in the past. The medical literature from which we must draw is not prolific, except as regards its local uses. Text-books upon physiological chemistry refer to CO_2 as a toxic agent. Almost the first mention I can find of its advocacy in medicine is connected with the use made of it by Sir J. Y. Simpson [*] as a local anæsthetic in erosions and ulceration of the cervix uteri. After this, it seemed to have fallen into a state of "innocuous desuetude" until revived by Bourgeon [†] as an injection into the rectum for the treatment of incipient phthisis. Here, again, although experimented with by many clinicians, it seems to have proved unsatisfactory. At various times it has been used mixed with oxygen as an inhalation in croup, asthma, and whooping-cough. Huxley once called attention to its use for this purpose, and objected to its wholesale denunciation as a poison. In a paper read before the British Association in 1870, and published in the *Asclepiad,* Sir Benjamin Ward Richardson [‡] made some remarkable statements in regard to carbon dioxide, which created much attention in the medical world at the time, and are worthy now of careful consideration. He says: "Until recently I had looked upon CO_2 as an excrete, but now, after many experiments, my opinion has completely changed, and I am fully of the belief that carbon dioxide has its uses. It may be a poison, so is oxygen, but it certainly has real value in the economy." He observed that when a stream of carbonic-acid gas is allowed to fall upon a mass of defibrinated blood, the blood became dark, and remained so if kept from the air. When exposed to the atmosphere, it instantly changed to a bright red. He theorizes that the blood holds the CO_2 until it meets with the oxygen of the air, when there is a displacement by catalysis, and the oxygen is absorbed. This explanation suggests that in the process of life CO_2 is absolutely necessary to the blood to enable it rapidly to undergo oxygenation. The relation of oxygen to the blood has been satisfactorily determined, but in what way CO_2 is combined or held in solution is yet, in a large measure, to be discovered. It is evident that until a complete theory of the gaseous exchanges between the tissues and the lungs is formulated the problem will remain unsolved.

Alexander Schmidt [#] has found that carbon dioxide is a most important antifermentative agent in the formation of fibrin. As fibrin in living tissues is eliminated by the kidneys, he suggests that carbonic-acid waters and those articles of diet which easily set free CO_2—such as the carbohydrates and vegetable acids—be used.

Bohr [*] has shown that hæmoglobin absorbs large quantities of carbonic acid. Dr. A. Montefusco [†] finds that CO_2 is destructive of microbes in drinking water. Peyraud,[‡] Ephraim,[#] and Ewald [‖] all speak well of its therapeutic uses in mineral baths, the principal statements of these eminent clinicians being for its stimulating qualities to the skin and its admirable results in chlorosis, anæmia, and impotence. Dr. A. Rose,[△] among the latest to make use of carbon dioxide, has treated satisfactorily dysentery, whooping-cough, and prostatitis by introducing a stream of the gas into the rectum, according to the Bourgeon method. At Nauheim, as a part of the Schott treatment, it is now regarded as a valuable aid in treating chronic heart troubles. Dr. Carmac,[◊] who recently visited Nauheim, reports that Schott's theory was that the gas, from its subtle qualities, easily penetrated the skin, stimulating breathing and expanding the lungs. As for myself, I have never experienced such a feeling of freshness and exhilaration as after taking what is called a "champagne" bath at Franzensbad in Bohemia.

I. Burney Yeo,[‡] in a recent lecture at King's College Hospital, calls attention to Dr. Bencke, of Marburg, who, as the predecessor of Schott, first taught the value of carbonic-acid baths in chronic heart troubles. He has also experimented with them himself, and found them of value in regulating compensatory diseases of the heart.

This brings us to the use of carbon dioxide internally. About twenty-five years ago I called the attention of the medical profession to its use in dyspepsia, and shortly afterward Dr. T. D. Crothers gave his experience in swallowing the gas through a glass tube, which he introduced into the stratum of gas overlying the fermenting mass in the vats of a brewery; being led to this by a patient who swallowed the gas through a rubber hose. Still earlier, in 1860, I am informed, Dr. Ignatius Langer, of Davenport, Iowa (formerly of Buda-Pest), a very ingenious man, treated with success several patients suffering from stomach troubles by forcing the gas into the stomach. How this was done I am unable to learn. In 1889 I patented a bottle stopper for use in retaining carbonic acid in mineral waters and champagnes, having experienced great trouble in retaining the gas when treating the vomiting of pregnancy with carbonic acid. This stopper is now in general use in Europe and America, and of sufficient value for many hospitals to employ it when carbonated waters are used in cases accompanied by nausea and vomiting.

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[*] *New York Journal of Medicine*, 1856.

[†] Bourgeon. *Bull. gén. de thérap.*, 1887.

[‡] *Asclepiad*, 1889, vol. vi.

[#] *Centralblatt f. Phys.*, Leip. und Wien, vol. viii.

[*] Ludwig's *Beitrag zur Phys.*

[†] *Giorn. di clin. terap.*, 1888.

[‡] *Bull. de la Soc. de méd. prat. de Paris*, 1890.

[#] *Deut. Med.-Ztg*, 1891–'92.

[‖] *Berlin klin. Woch.*, 1887.

[△] *New York Medical Journal*, September, 1895.

[◊] *Johns Hopkins Hospital Bulletin*, May, 1897.

[‡] *International Clinics*, July, 1896.

I now come to my personal use of carbonic-acid gas. During the past twenty-five years I have used it assiduously in nausea and vomiting from whatever cause, but I have used it especially in the treatment of various disorders of digestion. Until within the past six months I have depended upon the carbonic-acid waters, particularly those highly charged, such as Apollinaris, Gieshübler, and Delatour soda, using the bottle stopper mentioned above. Recently, however, through the courtesy of Bishop & Babcock, of this city and Cleveland, Ohio, manufacturers of liquid carbonic-acid gas, I have had placed in my office a steel cylinder charged with liquid carbon dioxide under a pressure of thirty-eight atmospheres. A gauge and regulator enable me to regulate the pressure so that I can administer the gas with perfect ease. I usually set the regulator at a pressure of from six to eight pounds, then I connect a stopcork with three feet of rubber tubing, terminating in a glass mouthpiece. I direct the patient—who comes to my office with a fasting stomach—to place the glass tube in his mouth, slightly depressing his tongue at the base. He is then directed to draw in his breath and hold it. I turn the stopcock and allow the gas to flow into the œsophagus and stomach. The pointer of the gauge falls back to zero, and I shut off the pressure, the patient withdrawing the tube and swallowing. No trouble from choking is experienced. I repeat this operation every minute for four or five minutes, and then allow a rest. The sensation is rather pleasant than otherwise. Most patients express satisfaction. There is a feeling of warmth in the stomach, with a sense of exhilaration, while no unpleasant distention is noticed, although the stomach may be so fully dilated as to allow one to define its outlines. Each *séance* lasts from fifteen to twenty minutes, and I have yet to find a patient who has experienced the slightest discomfort from its use. Several have told me that they have fancied they slept better when taking the gas in the evening. It can also be easily used for the purpose of dilating the stomach for diagnostic purposes, by connecting the rubber spray tube of Einhorn with the glass mouthpiece. This is certainly preferable to the old method of Frerichs, of using an acid and soda powder alternately, which is not only crude, but oftentimes distressing; or that other disgusting procedure of blowing through the tube and inflating the stomach with one's breath. Care should be taken in using the tube to allow the pointer to return to the five-pound pressure, and then wait a moment before permitting more gas to flow into the stomach, otherwise a slight dizziness will result. Upon withdrawing the tube a large portion of gas will be belched up, part will be absorbed, and part will pass the pylorus into the intestines. The only restriction I would place upon the use of carbonic-acid gas is that it should not be used in organic heart troubles or any organic disease of arteries or brain.

The action of carbon dioxide upon the gastric mucosa would appear to be stimulating, anæsthetic, and germicidal. It stimulates the peptic and pyloric glands, and is especially useful in the jaded, overworked stomach of the lifelong gourmand, or the seared, shriveled, hardened mucous membrane we find in alcoholic stomachs. My impression is it even goes beyond this, and through its ready absorption stimulates the muscularis mucosæ, and by its action upon the pneumogastric and sympathetic increases secretion. I find it especially useful in achylia gastrica, chronic catarrh—the stomach being first washed out—in hyperchlorhydria, where the hyperacidity is due to the formation of organic and fatty acids, and in the stomachs of habitual drunkards after a debauch. I do not suggest its use as a "cure-all," but as an adjuvant in the treatment of stomach troubles, which will, in a measure at least, take the place of a multitude of the ferments, tonics, and digesters we have been accustomed to deluge the stomach with.

The gas is cleanly, odorless, and not unpleasant to take. Its use has a great advantage over that of carbonated waters in that the water itself is entirely unnecessary, and may be impure. It is also very cold usually, and may chill the stomach.

I append a few cases:

M. A., merchant; forty-two years of age; usually in good health, but has periodical sprees. Has been indulging for the past two weeks freely in the use of liquor. Has slight muscular tremor; no hallucinations. Is very nervous. Vomits constantly. Vomit contains bile, occasional streaks of blood, and mucus. Very sensitive over the pit of the stomach. I washed out the stomach thoroughly. Instructed him to use no food for twenty-four hours. Began the use of gas—three *séances*, twenty minutes each, the first day. No more vomiting. Second day allowed him white of egg shaken up with Vichy water, and a cupful of hot milk. After three days' use of gas, returned to his business and ate his usual food. This case is of interest from the fact that I had formerly treated the patient and failed to relieve him within a week or more.

Case of Hyperchlorhydria.—Mrs. G., large, fleshy woman, thirty-six years of age. Has had uterine and rectal troubles; complains of pain in the stomach an hour or two after eating. Is a very large eater of highly seasoned food. Often at night has gushes of hot and sometimes bitter fluid come up in the throat, so acid it "sets her teeth on edge." Bowels irregular, usually loose. Condition: Tongue clean, belches considerable gas, which, she says, is unpleasant smelling. Is well nourished, has rosy cheeks, and is extremely indolent. Total acidity after test breakfast, 92. HCl = 70. Erythrodextrin present. Treatment: Gas daily for two weeks; no medicine, except for the first week a solution of impure carbonate of potassium (pearlash) for use to relieve distress of acidity. Is entirely relieved, except for the occasional belching of gas, without odor, which is evidently neurotic.

Case of Achylia Gastrica.—Mr. K., fifty years of age, a merchant, sent to me from another city. Is of spare build, rather swarthy; very little adipose tissue. Skin dry, tongue always coated. Drinks very little fluid of any kind. Twelve years ago drank freely of ice water upon a hot day. The next day he suffered from pain in the stomach and vomiting. Saw blood in the vomit. Has never been well since. Has had no vomiting for the past five years. Examination of the stomach contents after a test breakfast was simply negative. Lactic acid, 0; HCl = 0. Reaction alkaline. A disc of albumin unchanged. Has no pain; has lost twenty pounds in the past ten years. Has an uneasy feeling in the stomach after a full meal, but rarely eats much. Absorption by Penzoldt's test very slow. Three quarters of an hour elapse after eating before slight reaction is noticed. Is extremely nervous and easily fatigued. The case appeared at first to be malignant, but further examination convinced me it was what Einhorn would call achylia gastrica, or Bouveret "*anachlorhydrie nerveuse.*"

The treatment of this case was simply with the gas, lasting for one month. Mr. K. gained four pounds in weight, slept better, and felt as though he had a stomach and not a "dead thing," as he expressed it. This case was most interesting, but I have been unable to follow it up. Digestion was apparently performed entirely in the intestinal tract, the stomach serving merely as a receptacle for food.

ÆTIOLOGY OF CHRONIC BRONCHO-NASAL AND GASTRO-INTESTINAL CATARRH.

By HERMANN L. ARMSTRONG, M. D.,
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Lord Bacon has said, "I hold every man a debtor to his profession, from the which as men, of course, do seek to receive countenance and profit, so ought they of duty to endeavor themselves by ways of amends be a help and ornament thereunto."

In this just and wise maxim no profession follows quite so closely as does the medical profession, for day by day new truths are being unfolded by the greater minds in the profession through microscopical and chemical analyses, and by days, months, and years of patient, practical study and observation; and no sooner is the legitimacy of these truths established than they are given freely to the less fortunate brethren, and we accept and profit by them without thought of remuneration. I have no hesitancy in denouncing a large percentage of the medical literature of the present day setting forth the practical experience with this or that remedy in certain diseases by men of little or no practical experience, based largely upon the extravagant claims of some chemical company of doubtful character wholly in pursuit of lucre. About once in every decade the medical profession and the world in general are startled by a discovery in therapeutics that is almost the long-sought-for "elixir of life"; at least, it is advertised to annihilate all former therapy along certain lines. At such times medical men are apt to throw their experience of years to the wind and bow to the "golden calf."

The Brown-Séquard elixir and the Koch treatment of consumption had a sort of mushroom existence, but were soon found to be too expensive toys for daily use, and to-day they are about as dead as Fox's *Martyrs.*

It is not my desire to cast reflection on these great men of the medical profession, but I would counsel caution in the acceptance of theories that promise to do miracles. They should be taken *cum grano salis,* at least; not because of lack of intelligence on the part of the discoverer, but on account of the period of incubation being somewhat abbreviated in the majority of cases. Seriously, I would say that practical experience is the most convincing proof in favor of a certain line of treatment in a given disease, just as post-mortem observations establish a fixed pathogenesis. Practical experience, to be of value, however, must extend over a number of years and through a multiplicity of circumstances and conditions, and it is this fact that induces medical men to devote twenty, thirty, and sometimes forty years to hard, unremunerative clinical work, in order to leave landmarks to posterity, and also to aid them by experience in their work. Thus experience teaches the rhinologist and laryngologist that catarrh of the upper air tract is not a disease but a symptom, and the ætiological factor or factors in its production can be traced to their origin almost as surely as can rays of light to the sun. To attempt to cure these conditions by simple alkaline sprays is like the ostrich trying to hide himself by poking his head in the sand, or like trying to blot out the sun by hoisting an umbrella. In a former paper, published in the *New York Medical Journal,* I endeavored to show the fallacy of attempting to cure catarrhal conditions of these parts by simple detergents, as it was evident that a large percentage of these diseases was caused by a local irritant. I wish now to call attention to one at least of the many indirect causes. I refer to dyspepsia, and in the use of this term I mean it in its broadest sense, covering the entire alimentary canal and its accessory cavities. I am fully aware that dyspepsia is but another name for catarrh, and that I lay myself open to being accused of arguing backward. Of the mechanism of these catarrhal conditions and their treatment I shall have more to say farther on. In all probability the primary cause of catarrh of the upper air tract can be traced, in the majority of cases, to traumatic injury to the nose—causing obstruction to the nasal lumen by reason of deflected sæptum, hypertrophy of the turbinated bodies produced by flying missiles striking upon the nasal process of the superior maxillary bones and driving them inward. In some cases the missiles strike higher upon the bridge of the nose, causing exostoses or enchondroma of the sæptum—the injury occurring ofttimes many years before trouble is manifest in nasal obstruction. This can be accounted for easily when we come to consider the flexibility of the bones in infancy and early childhood. For instance, a child is taken out for an airing, say at two or three years of age, by a careless mother or nurse. The child is allowed to walk. Of course, it is apt to stumble, and falling, is almost sure to fall upon its face. As it has not the precautionary judgment of older people to break the fall by putting out its hands, the face gets the full force of the fall. The nose, being the most prominent part of the face, gets the most injury; the sæptum is deflected, but is almost immediately restored to nearly its normal condition; but this lack of being fully restored to its vertical position is the starting point for the unequal deposit of ossific matter, which renders the concave side of the sæptum more dense, thereby closing the Haversian canals and shutting off the ossific circulatory channels upon this side, and in all probability opening the way for a compensatory circulation and deposit upon the convex side, which in after years results in a deflection, exostosis, or enchondromatous growth that destroys the physiological function of the nose. This condition in time produces adenoid hypertrophies and growths, by reason of lack of ventilation in the upper part or vault of the pharynx. It also plays a minor rôle in preventing the natural absorption of the tonsils, and is almost the universal cause of chronic hypertrophic pharyngitis and laryngitis. Although the latter may be tuberculous or specific, nevertheless the exciting cause is due to vicious breathing.

Mouth breathing, or, what is practically the same, breathing solely through the inferior meatus, because of obstruction in the upper part of the nose, is the exciting irritant producing laryngitis, which eventually resolves itself into chronic hypertrophic laryngitis. By this obstruction the air is shut out of its proper physiological channels and is not properly warmed or moistened, and, as a result, the moisture of the lower pharynx and larynx is soon consumed, and a dry, burning irritation of the larynx is set up, described by patients as a choking sensation, a feeling as if a lump was in the throat, and often erroneously diagnosticated by physicians as globus hystericus. Chronic hypertrophic laryngitis sooner or later causes a chronic irritation followed by a persistent, hacking cough. The lungs, subject to this constant concussion, soon take on a bronchial inflammation which furnishes the nidus for the tubercular bacillus. Especially is this true when there is an inherited tendency to delicate mucous membranes and weak vital forces. Chronic catarrh of the upper air-passages has certain pathognomonic symptoms other than the local pathological condition visible, all of which go to make up the symptoms of what might be termed the first stage of extending catarrh, for the majority of patients met with by the specialist give a history of having had a rhinopharyngeal catarrh of a more or less prolonged duration, followed by indigestion of such a character as to make the diagnosis of catarrh of the stomach unquestioned. So often am I called upon to treat the stomach and the other organs of digestion, in order to benefit catarrhal subjects, that, for a time, I was undecided as to whether the catarrh of the upper air-passage caused the stomach trouble or whether the reverse was true. Observation in the treatment of a large clinical *clientèle* has enabled me to trace with a fair degree of certainty the successive steps of the advancing disease. After the disease has reached the stomach, there is a period, more or less prolonged, of marked distress in the stomach after eating, due to flatulent fermentation, which after a time subsides without treatment or change in manner of living, climate, or occupation. Soon after this subsidence the patient becomes subject to moroseness, fits of melancholia, has bilious attacks, with hepatitis and constipation, and last of all he has splenitis and malarial trouble. In a large number of cases at this stage we begin to suspect there is something wrong with our patient mentally, and usually put him down as a subject of catarrhomania, for on all other subjects than his disease he is perfectly rational. I have seen a limited number of patients that were given to the most irrational talk imaginable whenever their disease was broached. The most interesting thing connected with these cases is the fact that they are in men usually engaged in business, and very successful—men of unquestioned judgment in business matters.

I have gone somewhat briefly over the various phases of chronic gastro-intestinal catarrh and have also touched upon the subject of chronic broncho-nasal catarrh, and have pointed to the fact that in all probability these diseases start in the upper air-passages and gradually extend downward until almost every organ in the body may become affected, but of the transmissibility of a *materies morbi* in these cases I shall say nothing, but leave that for pathologists to determine.

In the practice of medicine to-day we hear a great deal of specialism and specialists; physicians who are confining their work to diseases affecting certain organs of the human body, believing that close attention to disease covering a smaller scope would offer greater opportunity to become proficient in their treatment than could be obtained in general practice. This is a laudable undertaking and one highly to be commended if properly pursued. There is a growing tendency, however, to become dogmatical that is very noticeable of late. Specialists seem to desire to make all diseases conform to certain rules which are amenable to treatment only through their specialty. This might be termed a stultification of thought or an ankylosis in the process of reasoning. The specialist who makes all diseases conform to a neurotic ætiology, or the one who proposes to do a laparotomy upon all patients who apply to him for treatment, or the one anxious to intubate every case of exudative laryngitis, is neither a benefactor of his race nor a credit to his profession; and he is not a man to whom we should care to recommend our friends, although such men may read logical papers before the medical societies of their respective localities. Therefore, honesty of purpose, judgment in weighing the possibilities and the probabilities of a given case, tact in artful expression of professional opinion and advice, and skill in operative work where operation is imperative, are the essentials of success in specialism; but of almost equal importance it is to be free from "hide-bound" dogmas that interfere with free thought upon lines both near and remote as to the ætiological factor in the production of the case in hand.

A few years ago Brooklyn and New York were flooded with laryngologists and rhinologists whose principal qualification consisted in a compressed-air tank and spray tubes with some Dobel's or Seiler's solution, and whoever came before them for treatment was sure to get sprayed without stint. This farce was kept up by some of these specialists for two or three years. In fact, there are some practising this delusion to this day, but, happily, this class is growing beautifully less.

The specialist of the future must have more than a fair degree of knowledge of physical diagnosis and pathology. The microscopical work might be left to some reliable pathologist, but the point I wish to make is that the specialist should be an all-round man, capable of looking into remote parts for the ætiological factor in any cases that might come before him due to tubercular trouble, syphilis, Bright's disease, diabetes, and many other causes very remote from the disease for which the physician was consulted. Thus, for instance, while dyspepsia is not the cause of catarrh of the upper air tract, it is nevertheless manifest that where it does exist no improvement will be got from the treatment of these parts unless the stomach is put in proper condition. In the treatment of gastric trouble it is very important to decide as to whether the case in hand is one of direct infection or due to defective fermentation from pathogenic organisms or deficiency in digestive ferments. It is well to keep in mind also some of the fundamental principles of the mechanism of normal digestion, and to remember that for the maintenance of perfect nutrition of the human body proteids, carbohydrates or starches, and fats are necessary; and no sooner does a person exclude one of these classes from his diet than he begins to suffer from nutritive changes that are felt more keenly the longer the deficiency continues, and it is on account of this fact that dieting for the cure of the various forms of dyspepsia becomes so important. As the food of man is twofold, animal and vegetable, so is the process of digestion—animal and nitrogenous foods needing an acid, while starches and vegetable food need an alkaline process to bring them into a soluble form for assimilation. Some years ago it was somewhat difficult to understand how amylaceous foods could be so quickly converted into maltose and dextrose by the action of the saliva and its enzyme ptyalin, inasmuch as mastication and deglutition were of such short duration, the saliva being an alkaline fluid whose action would be destroyed when coming in contact with the free hydrochloric acid of the stomach. But latterly it has been discovered that at the time of ingestion of foods very little free acid, especially hydrochloric, is in the stomach, nor is it secreted for some time thereafter, probably one half to three quarters of an hour, and thus we can see how the conversion of starch continues after it has left the mouth and the stomach also. It is a fact that in the so-called amylaceous dyspepsia deficient insalivation is often the prime cause, but there are other instances in which it is evident that the diastatic or starch-converting activity of the duodenal juices is at fault.

Gastric or proteid indigestion has been hammered at so much that I shall not discuss its mechanism, but proceed to give my plan of treatment.

The terms albuminous, amylaceous, or fatty indigestion are objectionable, for the difficulty really resolves itself into whether the trouble is gastric or intestinal. In the use of lavage of the stomach, in my early practice, I was frequently astonished to see how much food was removed from the stomach that had been eaten the previous day or days, but on account of the disgust manifested by patients at the thought of lavage I have lately abandoned the practice almost wholly, and have adopted the following plan, which I think is far preferable as to results, and more agreeable to the patients.

The following prescriptions are given: Sodium bicarbonatis, forty grains; lactopeptine, ten grains. To be taken in a glass of hot water about thirty minutes before meals. This will dissolve all stringy, catarrhal mucus and, as I believe, clear out the stomach of left-over *débris* from the previous meals. Then I direct the patient to take two or three grains of taka diastase at the time of eating the meal, and, whether the case is one of proteid or amylaceous indigestion, I am reasonably sure of good results. This plan does not "pauperize the stomach," as Fothergill has said, but does carry the load until the digestive apparatus is able to perform its function.

Taka diastase, discovered by Tackamine, a Japanese chemist, is, in my opinion, one of the best, if not the very best, therapeutical remedies known in the treatment of so-called amylaceous dyspepsia, and I could hardly exaggerate the good results I have had with this remedy.

If the stomach trouble has reached the stage of gastritis, then there will be of necessity a demand for a palliative plan of treatment, such as bismuth, opiates, oxalate of cerium, etc. If there is indication of torpid liver, calomel should be given. In chronic torpidity, a good plan is to give one tenth of a grain three times a day, for two or three weeks, under the watchful eye of the physician.

Another remedy that is essential in catarrh of the large intestine accompanied by constipation is one that will coax and not force the bowels to move daily. Such a remedy I have found in the pills manufactured by different firms in New York and containing small doses of aloin, strychnine, belladonna, and cascara sagrada. I shall not insult the intelligence of the profession by saying the foregoing is all that is necessary in the treatment of catarrh of the digestive tract, but will simply leave the subject by saying these are the essentials.

No. 777 De Kalb Avenue.

SEPTIC FEVER. A CASE FROM PRACTICE.

By PORTER S. KINNE, M. D.,
PATERSON, N. J.

Realizing with what care and anxiety the physician faces his cases of septic fever, and knowing how utterly useless in many cases are the usual modes of treatment, I feel it my duty to report the following case, which is but one of a number of which I am cognizant. Protonuclein not only surprised me and the various physicians by its wonderful and positive effects, but has been the means of a complete cure:

Mrs. M., aged twenty-eight years, slight build, primipara, was confined by me January 15, 1897. About two months prior to the confinement her lower extremities and pudendum became œdematous. I examined the urine carefully and at frequent intervals, and found it free from albumin or casts. I gave the case close study, and prescribed several remedies, but, in spite of all I did, the œdema increased, until at the time of her confinement her legs and thighs were hard and swollen to such an extent that she could separate them but slightly, and the external parts, especially the labia majora, were enormously distended. The outlook was not pleasing; it appeared as if it would be impossible to deliver her at all, and at best I knew that laceration would follow.

The labor was long and tedious, although the child lay in the first position. The patient was highly nervous, and after a safe time I decided it would be necessary to deliver with instruments. I sent for Dr. Crooks, and, giving chloroform to the full extent, delivered her of a bouncing boy weighing twelve pounds.

The result was as I feared. Although the instrument was removed before the expulsion of the head, the perinæum was torn down to and around the rectum, without injury to the rectum itself. Repair was made at once under thoroughly antiseptic precautions, and the patient left in a comfortable condition. She did well for three days, when the temperature rose. There was no pain or especial tenderness anywhere, no tympanites, and the parts looked healthy and were healing. I at once ordered the professional nurse to give the vaginal douches every four hours. I gave the intra-uterine (creolin) douche every twelve hours. This was continued for four days.

As the temperature was 105° F. and there were no signs of improvement, I decided to test the merits of protonuclein. I discontinued the use of all other medicines, and gave the vaginal douche only (hot water). I ordered protonuclein, two tablets every three hours. After each vaginal douche (four hours) a protonuclein suppository was inserted well up in the vagina; the external parts were thoroughly cleansed with hydrogen dioxide, and the protonuclein powder (special) was well dusted on the parts. The improvement was marked; the temperature fell to 102° F. in twenty-four hours, and in three days' time had become normal. The patient made a most excellent recovery.

In two cases of septic fever occurring in the practice of other physicians the same treatment was adopted after the fever had continued for three weeks, and the improvement was manifest within three days, and continued until both patients made a most satisfactory recovery.

After a personal knowledge of this kind—seeing is believing—I shall continue the use of protonuclein in my practice, and if the future yields as bright results as the past I shall be highly pleased.

September 11, 1897.

OPERATION FOR
PENETRATING PISTOL-SHOT WOUND OF THE ABDOMEN,
WITH PERFORATION OF THE INTESTINE.

By C. R. PARKE, M. D.,
ATTENDING SURGEON, LACKAWANNA HOSPITAL, SCRANTON, PA.

On September 6, 1897, at 8 p. m., I was called to the Lackawanna Hospital to see a case of pistol-shot wound of the abdomen (F. R., Italian, aged twenty-five years, single, stone mason). Upon my arrival I found that about an hour before the patient had been shot with a .32-calibre revolver. The pistol had been discharged from a distance of about twenty feet and the bullet had struck two inches below and to the left of the umbilicus. A probe was passed into the wound and found its way into the abdominal cavity with but little difficulty. The physical condition of patient was very good. Temperature normal; pulse full and strong, though somewhat rapid. Patient complained of pain over the entire abdominal region, and there was a slight sense of nausea. I decided to operate at once. Chloroform was used as an anæsthetic. I made my incision two inches and a half in length and over the site of the abdominal wound. The first loop of intestine withdrawn showed two perforations—one of entrance and one of exit. These were about midway between the free margin of the bowel and its attachment to the mesentery—that is, at the bowel's widest diameter from side to side.

The wound of entrance was sewed up with three stitches (Lembert) of fine twisted silk. The wound of exit showed protruding mucous membrane, which was pushed back inside of gut, and the wound treated the same as No. 1. After finishing with these wounds I proceeded to withdraw more of the intestine, protecting and keeping warm the intestine withdrawn by means of wrapping them in towels wrung out of sterilized hot water. About twelve or fifteen inches higher up I found two more perforations. The wound of entrance was at the free margin of the intestine, directly opposite the mesenteric attachment. The wound of exit involved the mesentery and caused a profuse hæmorrhage, which was controlled with considerable difficulty by means of sewing the mesentery around the wound over and over with catgut. After the bleeding stopped, the everted mucous membrane was returned to inside of gut and both wounds sewed up with Lembert sutures —three to the wound of entrance and four to the wound of exit.

The rest of the upper part of intestine was now withdrawn until the pyloric end of the stomach was reached, but without finding further wounds. I now returned the bowel to the abdominal cavity until I reached the loop first withdrawn. I then began to withdraw the lower part of the intestine. About six inches below the first wounds discovered I found a perforation of the mesentery, which was bleeding freely; the wound was about an inch from the intestine. This was sewed up and hæmorrhage controlled by means of catgut suture, which I sewed over and over.

About twelve inches from this down I found a single perforation of the bowel—wound of entrance. There was no wound of exit. About two inches from this wound the bullet could be felt free in the intestine. Dr. W. G. Fulton, who assisted me with the operation, pushed the bullet up to the wound and so removed it. This wound was likewise closed with three Lembert sutures of fine twisted silk.

The rest of the intestine was withdrawn, but no further wounds were found. The site of the wounds was about from five to seven feet above the ilio-cæcal valve. The intestines were now all returned to the abdominal cavity and two or three cotton sponges were passed in by means of dressing forceps and a small quantity of blood withdrawn. The cavity was not flushed out with any solution. I now closed the external wound with six deep silkworm-gut sutures, including all the tissues. Iodoform was dusted over line of wound. Iodoform gauze and borated cotton were applied and held in place with strips of adhesive plaster, and the whole covered with an abdominal binder. Time of operation, forty-three minutes.

Patient recovered from the anæsthetic nicely and complained of but little pain. Toward morning fell asleep and slept quietly for four hours. The next day (September 7th) was given nothing but cracked ice to allay thirst. Had a slight attack of vomiting. Temperature normal. Complained of considerable pain and was given a hypodermic of a sixth of a grain of morphine. The following day (September 8th) was given a glass of hot milk, which was rejected. Complained of pain, and a hypodermic of an eighth of a grain of morphine was given. At 5 P. M., temperature suddenly ran up to 100.2°. This was about forty-five hours after operation. For the following forty-eight hours the temperature fluctuated from normal to 100.4° F. (the highest which it attained at any time). At the end of this time (5 P. M., September 10th) patient had a free movement of the bowels, and the temperature dropped to normal, and has continued so, the bowels moving every day, and there has been freedom from abdominal pain. On September 20th (two weeks after operation) the dressings were removed. Wound was perfectly dry and completely healed. The stitches were removed. On September 27th, one week later, patient was allowed to get up and be about the ward. He was also at this time placed upon the regular hospital diet. I expect to discharge patient from the hospital in a week more.

Some eleven years ago I was an interne in the old Chambers Street Hospital in New York when Dr. W. T. Bull performed the first successful operation for pistol-shot wound of the abdomen. Until that time surgeons had not felt justified in opening the abdominal cavity until symptoms indicating perforation of the intestine showed themselves—and at such time the operation was always too late. Dr. Bull held that the operation was indicated even though there were no symptoms, and if the gut was found uninjured there was but little risk to the patient in making the exploratory incision. While I was an interne such a case as was desired came into the hospital. The patient had no symptoms, and merely wished some sticking plaster to put over the external abdominal wound. Within an hour Dr. Bull operated upon him and sewed up, I think, seven perforations. Since that time I have been anxious to have a similar case of my own.

Therapeutical Notes.

The Treatment of Eczema Marginatum.—Unna (cited in the *Centralblatt für die gesammte Therapie* for December) recommends the following application:

℞ Mercury bichloride	1 part;
Ichthyol	20 parts;
Distilled water	200 "

M. To be painted on night and morning, and then the part dusted with starch.

An Ointment for the Pain of So-called Spontaneous Gangrene.—Camescasse (cited in the *Presse médicale* for December 11th) recommends the following formula:

℞ Salicylic acid, Oil of turpentine, Lanolin, each	1 part;
Vaseline	7 parts.

M.

He insists that it must be rubbed, not upon the affected part, but upon the sound skin.

A Tooth Powder.—Dr. Marchandé, a dentist, recommends the following formula in the *Journal des praticiens* for December 15th:

℞ Powdered pumice	75 grains;
Medicinal soap	30 "
Resorcin	15 "
Precipitated chalk	300 "
Essence of peppermint	5 drops.

M.

Jaccoud's Nutritive Enema.—The *Journal de médecine de Paris* for December 12th gives the formula as follows:

℞ Yolks of two eggs;	
Dry peptone	from 60 to 300 grains;
Wine	1,800 "
Bouillon	3,750 "

M. It is recommended for use in cases of cancer of the stomach with obliteration of either the cardial or the pyloric orifice.

Hydrargyrol, a New Antiseptic.—According to *Nouveaux remèdes* for December 8, 1897, Gautrelet has given this name to paraphenylthionate of mercury, C_6H_4,OH,SO_3Hg. It has the form of brownish-red scales, which are insoluble in absolute alcohol, but readily dissolve in water and in glycerin, forming solutions of a fine ruby-red color. It precipitates alkaloids and basic toxines, but not albumin, so that it is superior to corrosive sublimate as an antiseptic. Iron and steel do not affect its solutions, but they are decomposed by acetic acid and by alcohol, even very much diluted. In the proportion of four to a thousand, it completely sterilizes bouillons. The one-to-four-thousand solution is neither caustic nor irritating. Gautrelet estimates the fatal dose for an adult person of medium weight at about an ounce.

The Administration of Antipyrine and Sodium Salicylate.— Bricemoret (*Bulletin général de thérapeutique*, November 30, 1897; *Lyon médical*, December 19, 1897) remarks that neither of these drugs should ever be given in capsules, on account of their tendency to give rise to gastric pain and vomiting. It is often well to prescribe antipyrine dissolved in a glass of Vichy water, which may be made sparkling by the addition of a slight amount of citric acid. Sodium salicylate should be administered in at least twenty times its weight of water. The author recommends this formula:

℞ Sodium salicylate	90 grains;
Syrup of bitter-orange peel	900 "
Curaçao	450 "
Distilled water	900 "

M. This amount is to be taken in twenty-four hours. Each dose should be mixed with half a glass of some effervescent water.

Ergotine in the Treatment of Pyelitic Hæmaturia.— Robin (*Scalpel*, September 26, 1897; *Deutsche Medizinal-Zeitung*, December 13, 1897) recommends the following formula:

℞ Ergotine	60 grains;
Gallic acid	7½ "
Syrup of turpentine	450 "
Linden water	1,800 "

M. S.: A teaspoonful every hour.

[The French *sirop de térébenthine* is made by digesting 10 parts of Strassburg turpentine in 100 of syrup.]

A Comparison of Some Potent Hypnotics.—In the November number of the *Post-graduate* Dr. Reynold W. Wilcox says that paraldehyde is probably the most potent hypnotic, and after it come chloralamide, pellotine, and trional. As regards the rapidity with which they produce sleep, pellotine stands first, paraldehyde second, chloralamide third, and trional fourth. With regard to the duration of the sleep resulting from moderate doses, it is longest with trional, and then come in the order given paraldehyde, pellotine, and chloralamide. There is but extremely slight danger of contracting a habit from the use of pellotine, a little more from that of chloralamide, and very great danger from that of paraldehyde. For continuous administration, chloralamide seems to be the safest, next comes pellotine, then paraldehyde, and then trional.

Lutaud's Pills for Amenorrhœa.—The *Journal de médecine de Paris* for December 19th gives the following formula:

℞ Iron peptonate, Manganese lactate, Scammony, each	30 grains;
Strychnine sulphate	¾ of a grain.

M. Divide into sixty pills. From two to four to be taken every night, on going to bed.

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THYREOID FEVER.

It is very common to observe fever lasting for a week or ten days after operations for goître, whether partial or complete removal of the thyreoid or exothyreopexy. This was long ago noticed by M. Poncet and M. Jaboulay, of Lyons, and has been written about by several of their pupils, such as M. Orcel, M. Gérard, and M. Jenny. In the *Lyon médical* for December 19th M. Bérard, chief assistant in the Lyons surgical clinic, refers to the observations of the gentlemen mentioned, and says that he himself has observed the fever in sixty per cent. of cases of partial thyreoidectomy, in eighty per cent. of those of complete removal of the gland, and in seventy per cent. of those of exothyreopexy. The most striking feature of the cases, he says, is the incongruity between the elevation of temperature, which is considerable, and the continuance of a comparatively good general condition; the pulse and respiration are not accelerated in proportion to the rise of temperature. The patient complains of flashes of heat, sweats abundantly, and sometimes has tremor and shows considerable excitement; there may be patches of cutaneous hyperæmia due to vaso-dilatation; the tongue remains moist and rosy, the digestive functions are unaffected save at the period of decline, when diarrhœa is not uncommon; the heart sounds are regular and sharp, and nothing abnormal is detected on auscultation of the lungs. There is nothing in these symptoms, M. Bérard remarks, to give one the impression of a grave infection. Indeed, he adds, there is no operative infection in these cases; if the wound is uncovered at the end of two or three days, the deep parts of the dressing, round the drainage-tubes, are found to be moistened with a clear, odorless serosity, and the skin in the neighborhood of the sutures is neither inflamed, hot, nor œdematous. Usually the more abundant is the flow of serosity the higher is the temperature.

The condition can not be a sort of acute myxœdema due to the sudden suppression of the whole or a portion of the thyreoid secretion; acute myxœdema never comes on so immediately when it does occur, and, although it is occasionally accompanied by the phenomena of tetany and over-excitement, it is most frequently characterized by a subnormal temperature, pallor, and torpor, signs that are the very opposites of those that accompany thyreoid fever. The author is inclined, indeed, to class as cases of thyreoid fever most of the alleged instances of transitory acute myxœdema in which there is elevation of the temperature, and recovery takes place before the operation wound is completely healed and without any thyreoid medication having been employed.

As regards the production of thyreoid fever, says M. Bérard, the amount of thyreoid tissue removed is of far less importance than the extent to which the parts are lacerated; ordinarily, indeed, the fever is more constant, more pronounced, and of longer duration after a massive enucleation or after exothyrcopexy in cases of fleshy goître, which require prolonged manipulation of the gland, than after extracapsular removal of even an entire lobe, if the vessels are tied previously and the tumor is excised rapidly without its proper capsule being opened. Add to this, says the author, the fact that in some persons, whether they are goîtrous or not, the ingestion of thyreoid substance or thyreoiodinin in sufficient quantity gives rise to tachycardia, tremors, and a rise of temperature, and we arrive quite naturally at a conception of the pathogeny of thyreoid fever; it simply denotes an intoxication, a temporary "hyperthyreoidization," due to the fact that the glandular secretion set free by the laceration and in some instances elaborated for a few days more in exaggerated amount, owing to irritation of the secretory nerves in the course of the operation, finds its way into the lymph or the blood.

M. Bérard gives a brief account of some experiments made by him on dogs, and they go to support his view of the origin of thyreoid fever. He used human thyreoids, hypertrophied or goîtrous. He found that in simple hypertrophy (not cystic goître) the thyreoid gland secreted products more toxic than its normal secretion. It is well known, he adds, that in exophthalmic goître the thyreoid secretion is still more poisonous, and it is its discharge into the circulation that gives rise to those terrible and fatal accidents, with temperatures of from 104° to 105.8° F., which such observers as M. Allen Starr and Professor Poncet have noted in thirty-five per cent. of cases of operative interference with the thyreoid gland itself or procedures requiring handling of its lobes, even simple ligation of the thyreoid arteries. M. Bérard is not ready to say what the poisonous constituents of the thyreoid secretion are, but he has satisfied himself that they can not be removed by means of the Chamberland filter.

THE LEUCOCYTES AS DESTROYERS OF BACTERIA.

The *Centralblatt für innere Medicin* for December 31st gives abstracts of several notable articles that have recently appeared on this subject. Among them is one by Dr. A. Schattenfroh, the full text of which was published in the *Archiv für Hygiene,* volume xxxi, part 1. When, says Schattenfroh, the bactericidal action of the blood and the blood-serum had been shown by H. Buchner's investigations to be unquestionable, the nature and origin of the substances to which that action was due were still matters of surmise. Buchner, Hahn, and Denys assumed the existence of peculiar bactericidal principles, the alexins, which, to judge from their secretions, had to be looked upon as albuminoid bodies. They went further and took it for granted that the multinuclear leucocytes constituted the mother-substance of the alexins. Apparently in square opposition to this doctrine stood Metchnikoff's theory, which denied that the blood-plasma and the fluids of the tissues had a bactericidal action, and ascribed the function of destroying bacteria particularly to the multinuclear leucocytes, which took the bacteria into their interior and digested them after they had been killed by some substances that acted chemically.

Since, says Schattenfroh, we have borne in mind the connection of the alexins with the leucocytes, we have been less inclined than before to hold to the phagocyte theory; whoever looks upon the leucocytes as the sources of bactericidal substances must believe in the possibility that these substances come into action in the interior of the cells. The tendency at present is to affirm the performance of phagocytosis in individual instances, rather than to maintain or deny its capital importance. The experiments of Buchner, Hahn, and Denys make it exceedingly probable that the leucocytes possess bactericidal materials which come into action when separated from the living cells, but they go no further.

Schattenfroh's very thorough investigations in this direction, says the writer of the abstract, Dr. Wenzel, of Magdeburg, are, therefore, a most welcome corroboration of the view previously prevailing. His chief conclusions are as follows: 1. The leucocytes of the rabbit and of the guinea-pig contain bactericidal materials; at least, such materials are set free when the cells perish. 2. The bacteria-killing property of these principles is not lost when the cells are dried or subjected for half an hour to a temperature of 140° F., but, on keeping them for the same length of time at a temperature of from 176° to 185°, it is lost. 3. By repeated freezing of isolated leucocytes with exudate deprived of its activity, with subsequent maceration for a day or two in the cold, or by a half-hour's maintenance of isolated cells at a temperature of 140° in physiological salt solution, as well as by two or three hours' maceration of triturated cells in physiological salt solution at a temperature of 98.6°, bactericidal extracts are obtained that are free from cells, but these products are not equally efficient against all bacteria. 4. The bactericidal action of the blood and that of the fluids of the leucocytes are not in all respects parallel; there are differences also in respect to their capability of being rendered inactive. Nevertheless, the alexins of the blood and the bacteria-destroying principles of the leucocytes may be identical. 5. Besides bactericidal materials, the leucocytes contain others that are antagonistic to them.

MINOR PARAGRAPHS.

THE INFLUENCE OF THE MENOPAUSE ON THE KIDNEYS.

At a recent meeting of the Paris Hospital Medical Society, a report of which appears in the *Gazette hebdomadaire de médecine et de chirurgie* for December 16th, M. Le Gendre remarked that, while the influence of the menopause on the circulation and on the nervous system was well understood, but little attention had been paid to its effect on the renal function. He had observed several cases which had led him to the conclusion that the change of life sometimes disordered the secretion of urine, perhaps by provoking renal congestion and diminishing the amount of urine, thus depriving the organism of one of its emunctories and leading to the retention of noxious substances that were normally carried off in the menstrual blood. A certain degree of self-intoxication might result from their retention. This was most apt to occur in women who were of a pronounced neuro-arthritic habit. The symptoms mentioned by M. Le Gendre were a reduction of the amount of urine, sometimes moderate albuminuria or transitory hæmaturia, often lumbar pains, nausea, vomiting, and intense headache. They could be prevented, ameliorated, or altogether overcome by wet-cupping or leeching the region of the kidneys, leeching the cervix uteri, or general bloodletting, together with the use of diuretics, such as milk and theobromine.

THE SERUM TREATMENT OF SCARLET FEVER, MEASLES, PNEUMONIA, AND ERYSIPELAS.

Huber and Blumenthal (*Berliner klinische Wochenschrift,* 1897, No. 36; *Gazette hebdomadaire de médecine et de chirurgie,* November 21, 1897) have experimented with the blood of persons convalescent from these diseases. Blood drawn from a vein of the elbow, the serum was mixed with an equal amount of physiological solution of salt, one per cent. of chloroform was added, and the mixture was passed twice through a Beckfeld filter. The serum was used in thirteen cases of scarlet fever, nine of measles, fourteen of pneumonia, and ten of erysipelas. It mitigated and shortened them all, but did not hasten defervescence in the cases of pneumonia.

GANGRENE AS A RESULT OF MEASLES.

Dr. Wunder, of Alsenborn (*Münchener medicinische Wochenschrift,* 1897, No. 20; *Centralblatt für innere Medicin,* December 25, 1897), relates the case of a child who had measles with the rash strikingly faint. On the tenth day of the disease an area of the thoracic wall as large as the palm of one's hand, beneath the right axilla, was found to be denuded of skin and studded with dry gangrenous masses. The surrounding skin was undermined, and from beneath it a thin, yellowish-white pus issued on making pressure. There was slight fever, and the child had a watery diarrhœa, with green evacuations, and ulcerative stomatitis. After cauterization with chloride of zinc and removal of the gangrenous tissue the pectoralis major and the latissimus dorsi were exposed; so also was the periosteum of one of the ribs. The respiratory movements of the pleura were visible. The sore healed rapidly, and there was rather pronounced retraction of the scar. On the fifteenth day of the illness an abscess as large as a hen's egg formed on the right arm. In this case the gangrene was attributed to thrombosis of the arteria thoracica longa, and its occurrence was thought to have been favored by the fact that before and during the illness the child lay most of the time on the right side.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 11, 1898:

DISEASES.	Week ending Jan. 4.		Week ending Jan. 11.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	13	7	14	1
Scarlet fever	208	17	206	16
Cerebro-spinal meningitis	0	0	1	0
Measles	302	8	401	17
Diphtheria	167	26	183	27
Croup	3	0	12	3
Tuberculosis	142	119	121	111

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending January 8, 1898:

	Cholera.		
Bombay, India	Nov. 24–Dec. 7		8 deaths.
Calcutta, India	Nov. 14–27		28 "
Madras, India	Nov. 20–Dec. 3		3 "
	Yellow Fever.		
Para, Brazil	Dec. 12–18		15 deaths.
Rio de Janeiro, Brazil	Nov. 21–Dec. 4	1 case.	
Cienfuegos, Cuba	Dec. 20–26		1 death.
Havana, Cuba	Dec. 17–30		6 deaths.
Matanzas, Cuba	Dec. 15–22		1 death.
Sagua la Grande, Cuba	Dec. 18–25	Yellow fever prevailing, but impossible to obtain statistics.	
	Plague.		
Hong Kong, China	Nov 7–20	2 cases,	2 deaths.
Bombay, India	Nov. 24–Dec. 7		153 "
	Small-pox.		
Rio de Janeiro, Brazil	Nov. 21–Dec. 4	10 cases.	
Hong Kong, China	Nov. 7–27	5 "	4 deaths.
Cardenas, Cuba	Dec. 19–25		4 "
Cienfuegos, Cuba	Dec. 20–26		3 "
Havana, Cuba	Dec. 17–30		6 "
Sagua la Grande, Cuba	Dec. 19–25	31 "	4 "
Gibraltar	Dec. 6–12	1 case.	
Messina, Italy	Dec. 12–18		2 "
Amsterdam, Netherlands	Dec. 12–18	1 "	
Rotterdam, Netherlands	Dec. 12–25	2 cases,	1 death.
Moscow, Russia	Nov. 28–Dec. 11	2 "	2 deaths.
Odessa, Russia	Dec. 5–18	34 "	7 "
St. Petersburg, Russia	Dec. 4–11	11 "	4 "
Glasgow, Scotland	Dec. 5–18	2 "	
Madras, India	Nov. 27–Dec. 3		1 death.

The Medical Society of the State of New York.—The ninety-second annual meeting will be held in Albany on January 25th, 26th, and 27th, under the presidency of Dr. Seneca D. Powell, of New York. Besides the president's address, the programme includes the following papers: Throat and Nose Affections and their Relations to General Medicine, by Dr. Walter F. Chappell, of New York; Ear Manifestations in General Disease, by Dr. Wendell C. Phillips, of New York; Cases of Acute Non-diphtheritic Inflammation of the Larynx Requiring the Prolonged Retention of the Intubation Tube, by Dr. John O. Roe, of Rochester; The Report of a Case of Unusual Contraction of the Visual Field and Disorder of the Color Sense Following an Injury, by Dr. T. F. C. Van Allen, of Albany; The Railway Surgeon and his Work, by Dr. C. B. Herrick, of Troy; What shall the State and County do for the Consumptive? by Dr. John H. Pryor, of Buffalo; The Advantages of State Control in Medicine, with Results Observed, by Dr. William Warren Potter, of Buffalo; A Contribution to the Study of Melancholia, with a Report of the Examination of the Blood in Fifty-seven Cases, by Dr. B. C. Loveland, of Clifton Springs; The Cold-Water Treatment of Typhoid Fever in Private Practice, by Dr. John T. Wheeler, of Chatham; Anæmia, by Dr. R. C. M. Page, of New York; On the Vagaries and Wanderings of Gall-stones, with Clinical Reports, by Dr. Henry L. Elsner, of Syracuse; The Treatment of Delirium, by Dr. Joseph Collins, of New York; Paralysis: Prognosis and Treatment, by Dr. Edward D. Fisher, of New York; The Relation of Bacteria to the Normal Alimentary Canal, by Herbert U. Williams, of Buffalo; The Rivals of the Physician in Practice, by Dr. Reynold W. Wilcox, of New York; The Hygienic Management of Dairies, by Dr. E. F. Brush, of Mount Vernon; The Municipal Control of Milk Supply in Cities and Villages, with a Report of Health Regulations, by Dr. T. B. Carpenter, of Buffalo; The Present Status of Expert Medical Testimony, by Dr. Evarts M. Morrell, of Yonkers; Expert Testimony, by Dr. J. B. Ransom, of Dannemora; Technique and Apparatus, by Dr. Samuel Lloyd, of New York; The X Ray in Medicine, by Dr. Williams, of Boston; The X Ray in Surgery, by Dr. Arthur L. Fisk, of New York; The X Ray, Clinical Experiences, by Dr. William Hailes, Jr., of Albany; Some Points in the Technique of the Alexander Operation, by Dr. Herman E. Hayd, of Buffalo; The Present Status of Vaginal Operations for Diseases of the Pelvic Organs, by Dr. Edwin B. Cragin, of New York; Remote Consequences of Excessive Uterine Hæmorrhage, by Dr. W. E. Ford, of Utica; Gauze Drainage in Laparotomy, by Dr. Henry C. Coe, of New York; The Anatomy and Function of the Female Perinæum, and the Operation for its Repair when Lacerated, by Dr. J. Riddle Goffe, of New York; Traumatic Injuries of the Brain, by Dr. J. H. Glass, of Utica; Formaldehyde Disinfection, by Dr. E. H. Wilson, of Brooklyn; The Past, Present, and Prospective Methods of Treatment of Insanity in the State of New York, by Dr. P. M. Wise, of Albany; A Year's Work in Appendicitis, by Dr. Herman Mynter, of Buffalo; The Management of Undescended Testicle in Hernia Operations, by Dr. William B. De Garmo, of New York; Investigation and Exploration of the Other Kidney in Contemplated Nephrectomy, by Dr. George M. Edebohls, of New York; Congenital Dislocation of the Shoulder Backward, with a Report of Seven Cases, and an Operation for its Relief, by Dr. A. M. Phelps, of New York; General Consideration and Catheter Life, by Dr. L. Bolton Bangs, of New York; Prostatectomy and Prostatotomy, Suprapubic and Perineal, by Dr. Samuel Alexander, of New York; Bottini's Galvano-caustic Radical Treatment, and the Palliative Treatment for Hypertrophy of the Prostate, by Dr. Willy Meyer, of New York; Castration for the Relief of Hypertrophied Prostate, by Dr. L. S. Pilcher, of New York; Stone Associated with Hypertrophy of the Prostate, by Dr. E. L. Keyes, of New York; Excision of the Fibula for Sarcoma, by Dr. Samuel Lloyd, of New York; The Treatment of the Fracture of the Femur in Children, by Dr. Theodore Dunham, of New York; The Treatment of Deficient Excretion from Kidneys not Originally Diseased, and Some of the Diseases Peculiar to Women, and Diseases of the Skin, by Dr. L. Duncan Bulkley, of New York; The Relations of the Physician to the Practice of Midwifery, by Dr. C. F. Timmerman, of Amsterdam; The Conservative Surgery of the Fibroid Tumor, by Dr. A. H. Goelet, of New York; A Report of a Case of Osteotomy of Both Tibiæ and Fibulæ for Symmetrical Antero-posterior Angular Deformity, by Dr. F. H. Peck, of Utica; and Intratracheal Injections for Diseases of the Bronchial Tubes and Lungs, by Dr. H. S. Drayton, of New York.

The Late Dr. Joseph O'Dwyer.—At a regular meeting of the medical board of the Willard Parker and Riverside Hospitals, held January 11, 1898, the following resolutions were unanimously adopted:

Whereas, We have learned with profound regret of the death of Dr. Joseph O'Dwyer; and

Whereas, This board has been frequently indebted to the wise counsel and unfailing courtesy of Dr. O'Dwyer in many difficult cases of intubation; and

Whereas, An institution specially devoted to the treatment of diphtheria is under lasting obligation to the genius of Dr. O'Dwyer, and can best appreciate the life-saving character of his invention; therefore, be it

Resolved, That we feel we have lost by the death of Dr. O'Dwyer a friend who combined in a rare degree modesty with great attainments.

Resolved, That the medical profession has lost one of its most distinguished members, one whose work in intubation of the larynx reflects lasting credit upon American medicine, and has perhaps resulted in saving more lives than any other one surgical invention of the century.

Resolved, That copies of these resolutions be forwarded to the medical press of New York and to the family of the deceased.

[Signed.] HENRY D. CHAPIN, M. D.,
HENRY W. BERG, M. D., } *Committee.*

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Surgery, on Tuesday evening, the 11th inst., Dr. Roswell Park was to read a paper on The Parasitic Origin of Cancer, with demonstrations of the organisms and microscopical sections, which was to be discussed by Dr. Herbert U. Williams and Dr. Woods Hutchinson.

The Late Dr. Alexander W. Stein.—The following preamble and resolution were adopted by the board of trustees and directors of the New York College of Dentistry at their regular monthly meeting, on January 3, 1898:

It is with deep regret that the New York College of Dentistry is called upon to mourn the loss by death of the late Professor Alexander W. Stein, M. D., who for twenty-eight years served the college with marked ability as professor of physiology, visceral anatomy, and histology, and who for twenty-one years occupied the office of treasurer, in which position he discharged his duties with diligence and faithfulness.

Honored by his associates in the faculty and in the board of trustees, respected by the medical profession, both in this country and abroad, for his many valued contributions to surgery, and beloved by a large number of students who have listened to and profited by his teaching, he has passed away a martyr in the cause of science, as his health was undermined by the effects of a poisoned wound received while operating for charity in one of our city hospitals.

Failing health caused his resignation, two years since, from the active duties of his professorship, and his death, while not unexpected, is a loss to science and a source of sincere regret to the college with which he has been so long connected.

We tender our heartfelt sympathy to the members of his family, and mourn with them a loss which can not be expressed in words.

Resolved, That this record be spread in full upon the minutes of the board of trustees of the college, and a copy forwarded to his family and to the medical journals of this city.

[Signed.] J. BOND LITTIG, D. D. S.,
F. LE ROY SATTERLEE, M. D., Ph. D.,
Committee on Resolutions.

A Proposed Association of Alumni of the Randall's Island Hospital.—A meeting for the purpose of forming such an association will be held at the Academy of Medicine on Tuesday, January 18th, at 8.30 P. M. Gentlemen who have at any time served on the staff are requested to be present.

The New York County Delegates to the Medical Society of the State of New York, together with the permanent members living in the county, are invited to meet at the Academy of Medicine on Monday, January 17th, at 3 P. M.

The Brooklyn Neurological Society.—Dr. N. C. Brush has been elected president, and Dr. W. H. Haynes secretary, for the ensuing year.

The Willard Parker and Riverside Hospitals.—Dr. Arthur B Duel has been appointed consulting aural surgeon to these institutions.

A Tarnier Monument—We learn from the *Progrès médical* that a committee has been organized to obtain subscriptions to a fund for erecting in Paris a monument to the late Professor Tarnier.

The Death of the Czar's Physician, the eccentric Dr. Zaccharin, took place on January 5th.

Change of Address.—Dr. Arnold G. Leo, to No. 2313 Seventh Avenue, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 2 to January 8, 1898:*

BACHE, DALLAS, Colonel and Assistant Surgeon General, will be relieved from duty as Chief Surgeon, Department of the Platte, January 20, 1898, and will repair to Washington, D. C., and report in person to the surgeon general of the army to assume charge of the Museum and Library Division of his office, and to enter upon duty, April 10, 1898, as professor of military medicine of the Army Medical School, to which he is assigned accordingly.

BRECHEMIN, LOUIS, Major and Surgeon. The leave of absence granted him is extended two months.

HOWARD, DEANE C., First Lieutenant and Assistant Surgeon, will be relieved from duty in the Department of Dakota when his services are no longer required at Fort Custer, Montana, and will proceed to Fort Crook, Nebraska, and report for duty at that post.

HUNTINGTON, DAVID L., Lieutenant Colonel and Deputy Surgeon General, is granted leave of absence from about February 1 to April 10, 1898.

MASON, CHARLES F., Captain and Assistant Surgeon, is granted leave of absence for two months and seven days.

OWEN, WILLIAM O., Captain and Assistant Surgeon. The leave of absence granted him is extended one month.

WINNE, CHARLES K., Major and Surgeon, is granted leave of absence for one month on surgeon's certificate of disability, with permission to leave the Department of the East.

Society Meetings for the Coming Week:

MONDAY, *January 17th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, *January 18th:* New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Kings (annual) and Otsego (semiannual—Cooperstown), N. Y.; Connecticut River Valley Medical Association (Bellows Falls, Vermont); Baltimore Academy of Medicine.

WEDNESDAY, *January 19th:* Medico-legal Society, New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

THURSDAY, *January 20th:* New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private).

FRIDAY, *January 21st:* New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynæcological Society.

SATURDAY, *January 22d:* New York Medical and Surgical Society (private—annual).

Births, Marriages, and Deaths.

Married.

BABCOCK—HOLBROOK.—In Appleton, Wisconsin, on Thursday, January 6th, Dr. Frank C. Babcock and Miss Helen Holbrook.

KILMER—RANSOM.—In New York, on Wednesday, January 5th, Dr. Theron Wendell Kilmer and Miss Angie Ransom.

MAGRUDER—BURGIN.—In Mayhew, Mississippi, on Wednesday, January 5th, Dr. B. L. Magruder and Miss Annie Elizabeth Burgin.

Died.

BRAYMER.—In Camden, N. J., on Sunday, January 9th, Dr. O. W. Braymer.

HAMILTON.—In Columbus, Ohio, on Saturday, January 1st, Dr. John W. Hamilton, aged seventy-four years.

McILROY.—In New York, on Wednesday, January 5th, Dr. Samuel H. McIlroy, in his fifty-ninth year.

O'DWYER.—In New York, on Friday, January 7th, Dr. Joseph O'Dwyer, aged fifty-five years.

Obituaries.

JOSEPH O'DWYER, M. D.

A GREAT benefactor of the human race, a modest, upright, and lovable man has been lost to the New York profession in Dr. O'Dwyer's death. The memory of his achievements in the intubation treatment of laryngeal obstruction will never die; the memory of him as a man will be cherished by all who had the privilege of knowing him. The cause of his death was shown by a post-mortem examination to have been thrombosis of the basilar artery with softening of the right lobe of the cerebellum, softening in the right half of the pons Varolii, and local meningitis.

The erroneous reports in the newspapers relative to his illness were entirely unauthorized and published without the knowledge of those in attendance.

Letters to the Editor.

ON THE TREATMENT OF MALARIAL FEVERS.

MYLAPORE, MADRAS, SOUTH INDIA, *December 2, 1897.*

To the Editor of the New York Medical Journal:

SIR: The interesting articles that have been appearing in the *New York Medical Journal,* from time to time, induce me to place before the readers of the *Journal* the results of my experience of a method of treatment of malarial fevers which has been attended with uniform success in a large number of cases. My remarks relate particularly to the best time for administering quinine and the form and the dose in which it should be given to produce the best results.

Many have been the directions given in our textbooks about the time when quinine is to be given in cases of malarial fevers and when not, but, so far as I have seen, nowhere has an attempt been made to give any reasons for the particular directions given by the writer on the subject for adopting his method in preference to those of others, each one merely depending on his own experience. For example, Dr. J. Ballagi, of Homestead, Pennsylvania, in his Remarks Regarding the Treatment of Malarial Disease, in one of the issues of your journal (pp. 601 to 602) says that "quinine is to be given at the very least six hours before the ensuing attack," etc., but does not say why it should be so given. It is no doubt true that each practitioner professes to have cured many cases of malarial fever according to his own methods of administering quinine, which only shows that many cases of malarial fever can be cured with quinine administered in any manner one may choose. But, seeing many failures even in some cases where large doses of quinine were administered and the many ill effects, such as vomiting, giddiness, ringing in the ears, amblyopia, etc., that almost always resulted from administering quinine in the usual orthodox manner of giving large doses either before or during the attacks, I have thought of placing before the readers of your journal a method of administering quinine by which not only have I not had any case of failure, but have actually cured several cases of jungle and Mulnad fevers (a very severe kind of malarial fever of these parts) in patients who had been quininized both by mouth and hypodermically, but without affecting the fever in the least.

According to this method, the dose of quinine required is not a large one; and I have had no occasion to give more than a gramme (fifteen grains) of quinine sulphate in one dose in even some of the refractory cases that I have had to deal with in these parts, and I have not met with a single case in which any ill effects of quinine were manifested—not even vomiting, which so frequently follows the administration of large doses of quinine.

The method is one advocated strongly by the late Dr. George Smith, once the senior physician of the General Hospital, Madras, and it depends on the fact that the best time for administering quinine is when the pathogenic germs are in the most weakened condition, and not when they are in a vigorous condition. Dr. George Smith, with a view to impress on his students the importance and reasonableness of his method of treatment, used to teach them graphically that the best treatment for malarial fevers was to "*Strike the enemy* (malarial germs) *when he is weakest, with the strongest weapon* (a fairly large dose of quinine)," and that in all cases of malarial intermittent fevers the actual attack of rigors and fever was the result of the war that was taking place in the system between the malarial germs and the phagocytes, and the cessation of fever was an indication of the defeat of the enemy, caused partly by their destruction and partly by their being weakened. The interval indicates the rest and the time required for the growth of the younger germs and for the recovering of the lost strength by the weakened ones, for a further attack, so that the enemy is in his weakest condition as soon as the fever begins to subside, and it is then that a large dose of quinine, the specific *par excellence* for malarial disease, is to be administered and its effect prolonged by frequent smaller doses at intervals of from four to six hours for some days after that. Whatever the explanation may be, such of us as have followed his directions have yet to find a case, as I have already said above, which has not yielded to this method of treatment.

The actual method employed by me in all cases of intermittent fevers is never to give quinine either before or during an attack. I always wait for the attack to subside before giving any medicine; and during the attack I allow the patient to have any hot drinks he may like, such as coffee, tea, or warm milk, or iced water or milk if preferred. I never give any antipyretics to bring down the fever, as I have always found that the reduction of fever by means of an antipyretic prevented somehow the full action of quinine, and recurrence of the attacks has been common only in such cases. But when the fever begins to subside in the usual course, and the patient begins to perspire freely and to feel free from headache and other uncomfortable symptoms, I give him from ten to fifteen grains of sulphate of quinine for the first dose and then give five grains every four, five, or six hours after that (in many cases not more than four times a day) for a week at least, after which time I continue quinine in two-grain doses with four or five minims of Fowler's solution (liquor arsenicalis, *B. P.*) twice a day, after meals, for a fortnight longer.

If quinine is administered in this way it is very rarely the next attack occurs. In my experience of many cases of malarial intermittent fevers of all types, I have not had more than five or six cases in which the attack recurred more than once, and those rapidly yielded to the quinine similarly administered again. Larger doses than fifteen grains, as advised by Dr. Ballagi and others, are perfectly unnecessary and are chiefly instrumental in producing many of the ill effects of quinine-poisoning, so to speak. As a general rule I prescribe only ten grains of sulphate of quinine for an adult for the first dose, and it is only in rare instances that I give fifteen grains, and I have had no occasion to use any larger dose than this, as by the use of this method the very next attack is invariably prevented.

The form in which I give quinine is that of soft gelatin capsules containing measured quantities, or that of freshly made pills with glyceride of tragacanth, or that of wafers. It is only rarely I order it as a mixture or solution, more especially in cases of children and others who can not swallow a pill, however soft and small it may be. Though the solution of quinine does undoubtedly act much sooner and much more efficiently, it has two important drawbacks—viz.: its bitter taste and its producing vomiting oftener than the capsules, wafers, or pills (freshly prepared). Certainly, as Dr. Ballagi says, compressed tablets and hard-coated pills are to be condemned, for I know of a case in which a brother practitioner here prescribed seven of these hard-coated pills of two grains each, and six of them were passed out in the patient's motions two days after, intact.

I have sent this note with the hope that a trial will be given in your country to a method of treatment of malarial fevers which not only seems a very rational one, but has actually proved itself the best in the practice of those that have tried it in some of the severe forms of malarial fevers of these parts, and the results of such a trial will be reported in your valuable journal.

I am sorry I can not send you a summary of the results of treatment of the cases, as my notes of them are fragmentary and are not kept regularly, but I shall try to keep a regular record of them hereafter and hope to furnish you with the further results of treatment of malarial diseases according to this method at some future date. M. C. Nanjunda Row, M. B.

THE UNAUTHORIZED USE OF A NAME.

New York, *January 7, 1898.*

To the Editor of the New York Medical Journal:

Sir: The advertisements which appeared recently in all the papers of New York, extolling the virtues of a certain mineral water and connecting my name therewith in a very fulsome and otherwise offensive manner, were printed without my knowledge or consent. I had them stopped as quickly as I could, and have taken measures to obtain a permanent injunction against their reappearance. S. G. Cook, M. D.

Proceedings of Societies.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Meeting of October 13, 1897.

The President, Dr. Brooks H. Wells, in the Chair.

(Concluded from page 61.)

An Unusual Case of Appendicitis.—Dr. Ramon Guiteras read a paper on this subject. (See page 75.)

Dr. Rupp said that he formerly knew a medical man who had been assistant at one of the German clinics a long while, whom he had consulted in a difficult abdominal case which a number of men had misdiagnosticated, and he had shaken his head wisely and said, "These abdominal cases, look out for them!" Mistaken diagnoses of the kind that Dr. Guiteras had recited and such as had been reported at the meetings of this society from time to time, were due to the fact that the abscesses might form in a great many parts of the abdominal cavity, simulating different though allied conditions. Those who did not operate at all or saw no operations found it difficult to see the necessity for surgical interference.

The President agreed to what Dr. Rupp had said. It was often impossible for the best diagnostician to be certain of intrapelvic conditions. One should assure himself that there was a condition needing operation, and then one could go ahead and do what was found necessary. While it was certainly important to make an accurate diagnosis, in an urgent case one should not hesitate to operate because he was not absolutely sure.

Stone in the Perinæum.—Dr. Guiteras presented a specimen of this kind. He said it was the only case on record, and for that reason a very interesting one. He had taken the stone from a patient twenty-six years of age. He was a laborer, and when he was a boy eight years old his functions had been working normally, when one day he had been unable to urinate, and after two days of retention his father had taken him to the hospital. The surgeon had made a diagnosis of stone in the bladder and had performed an operation. He had made a perineal incision and opened the bladder, but no stone could be found. The boy had remained in the hospital for about two weeks, returned home, had been two weeks in bed, and then had been up and about. For eight years this boy had passed his urine entirely through the perineal opening. Not a drop had come through his urethra. When he had arrived at the age of puberty, and the organs had begun to develop and the urethra had increased in size, a few drops of the urine had come from the urethra, although the bulk of it had come through the perinæum. Nothing of interest had happened until about three years ago. In the course of the last three years he had had five or six attacks of inflammation of the perinæum, attended with redness and swelling, lasting for two or three days, and ending in a discharge of pus. About a month ago the patient had contracted urethritis, which had gone back to the deep urethra and set up a very severe inflammation in the perineal region. He had entered the hospital on account of the urethritis and pain in his perinæum. As a general thing, in cases of very acute urethritis, the urethra was not explored until the inflammation had subsided somewhat, and operations were usually postponed until the discharge had abated. In this case the patient's condition had grown worse, and it had been decided to operate at once. He had been anæsthetized and the urethra washed out and explored. It had been with difficulty that a filiform bougie was passed through his urethra. A metal Gouley tunneled catheter had then been passed over it into the bladder and he had been put in the lithotomy posture. When he was in this posture, the assistant, holding the handle of the catheter, had pressed the convexity into the perinæum, thus making it tense, and bringing into view through the sinus a small area of a foreign body of a grayish color, resembling a piece of bone. The speaker, on introducing his finger into the rectum, had felt the surface of a stone extending about an inch into the rectum through its anterior wall. He had then made a perineal incision down toward the anus, and this stone had been revealed in the perinæum. With one finger in the rectum and the other in the perineal opening, he had managed with a good deal of force to work the stone out. He could then insert his finger into the rectum, hook it around, and bring it out in the perineal opening. This had appeared to be entirely outside of the urethra. He had then pushed a perineal grooved director into the bladder along the tunneled sound, enlarged the opening, and introduced the ordinary perineal drainage-tube. The patient had been doing very well since the operation, and the opening between the perinæum and rectum might close without an operation. The interesting point to the speaker was how the stone happened to lodge in the perinæum and grow there. He thought the probabilities were that this stone was lodged in the urethra, causing the retention, that the surgeon when he opened the bladder had gone behind the stone in the perinæum, and that then the urine had drained away. He thought that while he was quiet in bed the stone remained in position, but when he was up and around the stone dropped back into the perinæum. In any case, the stone in some way or other had worked its way into the perinæum, and the urine, constantly flowing from the urethra down upon it and depositing its salts, had increased its size. As the stone grew, it had been pushed in the direction of the least resistance, and finally had pushed its way through into the rectum. A remarkable feature of the case was that no urine had ever entered the rectum or any fæces the urethra. At present the urine contained no blood or pus. The stone was evidently composed of oxalate of calcium.

Dr. Baner asked if that had been a specific urethritis.

Dr. Guiteras said that by specific he supposed the speaker meant gonorrhœal. He had not examined for the gonococci; but, as it had been a very acute urethritis, it probably had been gonorrhœal.

Dr. Bissell said it would be interesting to know the condition of the prostate.

Dr. Guiteras said that the prostate had been atrophied to such an extent that it was almost impossible to outline it. The seminal vesicles on either side could be distinguished, but they had not been enlarged.

Dr. Rupp asked about defæcation.

Dr. Guiteras said it had been almost normal; the bowels moved once a day.

Dr. Bissell said it was an exceedingly interesting case from its uniqueness, and showed how a urethra and rectum would tolerate large substances without any trouble.

Dr. Guiteras said that the stone might have been in the urethra at one time, but it had been in the perinæum when found. In looking up the literature on the subject, and from what had been said at the Academy of Medicine when he had presented the specimen there, it was apparent that there was no other such case on record.

Neuroretinitis.—Dr. A. T. Muzzy read a paper on this subject. (See page 74.)

Dr. Rupp said that the paper had puzzled him a little. It had seemed to him there was a difference between atrophy and inflammation. In two cases of optic neuritis that he had had, the oculists had not helped in the diagnosis until the cases had been well-marked neuritis. In the beginning of the trouble there had been headache in both cases; no marked symptoms of the retina had been discovered. It had been suspected that the man had had syphilis, though he denied it, but it had been afterward found that he had. The other case had been that of a child. There had been softening of the nervous tracts, and the disease had been back in the cerebellum and the upper part of the spinal cord, due to a tumor of the right cerebellum. In both cases the neuritis had been double, though not equal in both nerves or tracts.

Dr. William H. Stewart asked in regard to the strength of the solution of strychnine.

Dr. Baner asked in regard to giving strychnine by hypodermic injection, why the oculists preferred to give it in that way, and seemed to make so much of a point of it. He thought that by giving it internally one could gauge the physiological effect with closer accuracy, if sufficient care was taken with the administration.

Dr. Mallett asked whether nitrate of strychnine or sulphate of strychnine was used. Speaking of hypodermic injections, he thought they were much more efficient than strychnine given by the mouth, because in a very severe case of neurasthenia he had used nitrate of strychnine twice a day, morning and night, a sixtieth to a fifteenth of a grain, with very good results, but when it was taken by the mouth the effect was entirely different, was not nearly so good, and produced symptoms of strychnine poisoning.

Dr. Muzzy said, in reply to Dr. Rupp's question, that he had striven to present the form which was confined to the course of the nerve. In the case Dr. Rupp referred to there had been the history of a cerebral tumor, where the neuritis was progressive, named papillitis. The form the writer had given had been a subacute form, and only affecting the course of the nerve. It might begin at the base of the brain and progress toward the eye, when it seemed to have a selection for certain parts of the nerve, so as to form on the retina, or rather on the field of view, scotoma or contractures. The strength of the strychnine had been about one one-hundred-and-twentieth of a grain to the minim, making about a quarter of a grain in the twenty-five minims taken by his first patient. The speaker felt, as Dr. Baner said, that there ought to be a method of giving it by the mouth, where one could be spared such violent reaction, and where there might be more permanent results. He had questioned closely the first of these patients, in whose case the injections had been continued for four weeks. For three hours she had had violent reaction, and for the rest of the day been almost prostrated. One of the speakers had said that the results from the hypodermic injections had been very good, and it was certainly true that in a few cases they had had very brilliant results; but in this case, and in every case that the speaker had personally come across, it had been anything but brilliant. They had changed the color of the cloud from a bright red to a brown, then to a white, and then it had stopped there and gone back. The result had been complete atrophy. He had hoped some of those present might have had other experience in the use of it, and have given some of their results and methods in the use of the drug by the mouth.

Book Notices.

A Pictorial Atlas of Skin Diseases and Syphilitic Affections, in Photo-lithochromes from Models in the Museum of the Saint-Louis Hospital, Paris. With Explanatory Woodcuts and Text, by Ernest Besnier, Physician to the Saint-Louis Hospital, etc.; Tenneson, Physician to the Saint-Louis Hospital; Hallopeau, member of the Academy of Medicine, etc.; Fournier, Professor of the Faculty of Medicine, etc.; and Du Castel, Physician to the Saint-Louis Hospital. With the Co-operation of Henri Feulard, Curator of the Museum, and Léon Jacquet, Secretary of the Dermatological Society of France. Edited and annotated by J. J. Pringle, M. B., F. R. C. P., Assistant Physician to and Physician to the Department for Diseases of the Skin at the Middlesex Hospital, London. London: F. J. Rebman ; Philadelphia : W. B. Saunders, 1897. Parts X, XI, and XII. Pp. 269 to 302. [Price, $3 each part.]

The concluding numbers of this atlas, Parts X, XI, and XII, bring a very superior work to a fitting close. They more than sustain the promise of the earlier numbers for a standard of excellence which has been uniformly maintained throughout, and to a degree too which has been attained by few if any similar works—surpassed by none.

Part X has three excellent numbers, two of them by Fournier, on syphilitic affections, the other on Paget's disease of the nipple, by Darier. It is needless to say that Fournier's articles are full of interest and instruction, dealing as he does with a subject so entirely his own. The accompanying plates, representing syphilitic chancres of the face and breast, are particularly good. Darier's article on Paget's disease of the nipple is exhaustive, and the plate is a graphic illustration of the points brought out in the ten pages of accompanying text. Lack of detail is not a Frenchman's fault in medical literature. Jacquet completes this part with a short article on a rather obscure affection, trophic "ulcers of the hand and forearm."

Part XI begins with an excellent plate illustrating a phase of erythema multiforme, the bullous form, and the characteristic lesions are particularly well shown.

The next plate is a beautiful representation of the true pigmentary syphilide, with an accompanying article by Baudouin (a new contributor), in which the well-known views of Fournier upon this subject are interestingly put forth. The next article, also by Baudouin, deals with molluscum contagiosum, and is accompanied by an excellent plate showing the lesions in a rather unusual situation. The fourth plate shows an extraordinarily extensive vascular nævus of the leg, of the verrucose variety. Gaucher deals with the subject with the somewhat characteristic French profuseness of detail, not always of prime importance. Jacquet, in the fifth article (previously but four had been given in each part), deals, for the first time for him, with a commonplace disturbance — *i. e.,* phtheiriasis vestimentorum. The plate tells the story most completely, and is a perfect representation of the various lesions of an extreme case of this trouble.

We regret that with Part XII this atlas comes to a close. Five plates are again given. Two are devoted to syphilitic chancres, showing four different types of this lesion, all extra-genital. The atlas is particularly rich in plates illustrating syphilitic affections, and the two articles by Fournier in this number, with his other numerous contributions on this subject, go to make a very valuable and prominent feature of the atlas. There is no question but this work will prove as valuable an addition to the shelves of the general practitioner as to those of one whose work is more especially in its particular line, and we wish for it all the success it deserves and will no doubt achieve.

Memory and its Cultivation. By F. W. EDRIDGE-GREEN, M. D., F. R. C. S. New York: D. Appleton and Company, 1897. Pp. 311.

THIS, the latest acquisition to the well-known *International Scientific Series,* is, as its title indicates, a study of the most important of all mental faculties. Beginning with the definition of memory as the process by means of which impressions of the external world and ideas are retained for use on subsequent occasions, the author unfolds his subject by primarily dividing memories into motor and sensory, corresponding to the motor and sensory nerves, and from this he passes to the more particular consideration of the faculties of the mind, the special memories, and the distinctions between remembrance, recognition, and recollection.

Then follow descriptions and illustrations of the variations of memory at different periods of life, and of the various disturbances of this faculty in certain psychical and pathological conditions. The first part concludes with a chapter on the physical situation of the organ of memory, which the writer thinks is in the basal ganglia. The second half of the volume is given up to the consideration of the cultivation of memory. The rules laid down are useful, and an observance of them will increase the power of retaining mental impressions.

As a whole, the book is very readable, contains much valuable information, and should prove a useful addition to any library. The many ramifications of the subject into adjacent sciences render it unavoidable that the treatment should be somewhat uneven. The pathologist could find flaws in some of the author's statements, and the hard-working and poorly paid experimentalist can only look on with wonder at the dispatch with which some perplexing problems find their solution in this book. The second part, which is pedagogical, is eminently serviceable, and it alone will make the volume necessary to a large circle of readers.

International Clinics. A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynæcology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology, and specially prepared Articles on Treatment. By Professors and Lecturers in the leading Medical Colleges of the United States, Germany, Austria, France, Great Britain, and Canada. Edited by JUDSON DALAND, M. D. (Univ. of Pennsylvania), Philadelphia, Instructor in Clinical Medicine and Lecturer on Physical Diagnosis in the University of Pennsylvania, etc.; J. MITCHELL BRUCE, M. D., F. R. C. P., London, England, Physician to and Lecturer on the Principles and Practice of Medicine in the Charing Cross Hospital; and DAVID W. FINLAY, M. D., F. R. C. P., Aberdeen, Scotland, Professor of Practice of Medicine in the University of Aberdeen, etc. Volume III. Seventh Series. Philadelphia: J. B. Lippincott Company, 1897. Pp. 12 to 360.

THE present volume of this work has more of an international character than any we have heretofore noticed. The Vienna school is represented by articles from those two well-known clinicians Professor Nothnagel and Professor Neusser. Among the French names we may mention Landouzy and Debove, whose lecture on enteroptosis is one of the best in the book. Byrom Bramwell, Pickering Pick, and Alexander James may be cited among the Englishmen who have contributed excellent reports of cases. Andrews, of Chicago, furnishes an interesting lecture on fractures of the rim of the acetabulum and of the margins of other articular cavities complicating fracture.

The reader is impressed in the article by Nothnagel with the methods of clinical instruction as practised in the Vienna school. If we take this reported lecture as a typical example, the thoroughness in diagnosis and the completeness and care in interpreting physical signs that prevail in Vienna are very striking. The lecture in question is on a case of chronic intestinal invagination. Speaking of intestinal carcinoma, the author mentions the increased frequency of this form of cancer. In the General Hospital in Vienna, in the twelve years from 1870 to 1881, a hundred cases of intestinal carcinoma came to autopsy, while in the twelve years from 1882 to 1893 there were two hundred and forty-two cases. This, says the author, is not due to the fact that more cancer cases were retained in the hospital till the fatal termination during the second period than in the first, for the statistics of the living patients show a corresponding disproportion. To his own knowledge, he adds, the character of the patients received into the hospital during the one and the other period has not changed. The author quotes an opinion of the late Professor Billroth's, which coincided with his own experience in his private practice, that this increase has not been merely among the poorer classes, but had been observed in his private practice as well.

A Text-book of General Botany. By Carlton C. Curtis, A. M., Ph. D., Tutor in Botany in Columbia University. London, New York, and Bombay: Longmans, Green, & Co., 1897. Pp. viii–359.

This volume is based on the laboratory work required of beginners at Columbia, and is intended as an introduction to the study of botany. Interesting chapters on plant anatomy and physiology are followed by a synopsis of plant morphology in the different orders, one hundred and seventy-one pages being devoted to cryptogams and seventy-six pages to phanerogams.

Those whose acquaintance with botany is limited to the identification of flowering plants by the aid of Gray's *Manual* will be surprised at the richness and fascination of the subject as developed by the newer methods so well exemplified in Dr. Curtis's work.

BOOKS, ETC., RECEIVED.

The Student's Guide to Medical Diagnosis. By Samuel Fenwick, M. D., F. R. C. P., Consulting Physician to the London Hospital, and W. Soltau Fenwick, M. D., B. S. Lond., M. R. C. P., Physician to the London Temperance Hospital, etc. Philadelphia: P. Blakiston, Son, & Co., 1897. Pp. xxxii–468. [Price, $2.50.]

La responsabilité médicale. Secret médical—Déclarations de naissance—Inhumations expertises médico-légales. Par P. Brouardel, Professeur de médecine légale, et Doyen de la Faculté de médecine de l'Université de Paris, etc. Paris: J.-B. Baillière et fils, 1898. Pp. xii–451.

Bibliographischer Semesterbericht der Erscheinungen auf dem Gebiete der Neurologie und Psychiatrie. Von Dr. med. et phil. G. Buschan. Dritter Jahrgang, 1897. Erste Hälfte. Jena: Gustav Fischer, 1897. Pp. 172. [Preis, 4 Marks, 50 Pfennig.]

Handbuch der Therapie innerer Krankheiten, in sieben Bänden. Heraugegeben von Dr. F. Penzoldt, Professor in Erlangen, und Dr. R. Stintzing, Professor in Jena. Zweite theilweise umgearbeitete Auflage. Fünfte Lieferung. Mit 17 Abbildungen im Text. Sechste Lieferung. Jena: Gustav Fischer, 1897. Pp. 113 to 624.

Forty-fourth Annual Report of the New York Infirmary for Women and Children, for the Year 1897.

Abnormal Respiration in Infants from Obstruction in the Upper Air Passage. By James J. Concannon, M. D. [Reprinted from the *Journal of the American Medical Association.*]

An Interesting Case of Pseudo-Hermaphroditismus Masculinus Completus. By J. C. Carson, M. D., of Syracuse, N. Y., and A. F. Hrdlicka, M. D. [Reprinted from the *Albany Medical Annals.*]

Trephining in Mexico. By Carl Lumholtz and A. F. Hrdlicka, M. D. [Reprinted from the *American Anthropologist.*]

A National Health Organization and other Sanitary Needs of New Orleans. By Stanford E. Chaillé, M. D., of New Orleans. [Reprinted from the *New Orleans Medical and Surgical Journal.*]

On the Hæmatozoan Infections of Birds. By W. G. MacCallum, M. D., of Baltimore. [Reprinted from the *Johns Hopkins Hospital Bulletin.*]

Resection and Advancement of the Levator Palpebræ Muscle in Traumatic Ptosis. By Charles A. Oliver, M. D., of Philadelphia. [Reprinted from the *University Medical Magazine.*]

Some Cases of Feigned Eruptions. By Francis J. Shepherd, M. D., of Montreal. [Reprinted from the *Journal of Cutaneous and Genito-urinary Diseases.*]

Supplementary Croonian Lecture on Points connected with the Pathology and Treatment of Diabetes. By F. W. Pavy, M. D., of London. [Reprinted from the *British Medical Journal.*]

Traumatic Paralysis of the Upper Extremities. By John F. Erdmann, M. D. [Reprinted from the *Medical Record.*]

How Every Town may Secure a Medical Library. By C. D. Spivak, M. D., of Denver. [Reprinted from the *Medical News.*]

Antistreptococcus Serum. By C. P. Thomas, M. D., of Spokane, Washington. [Reprinted from the *Journal of the American Medical Association.*]

A Preliminary Report on the Use of Antivenene in the Treatment of Leprosy. By Isadore Dyer, M. D., of New Orleans. [Reprinted from the *New Orleans Medical and Surgical Journal.*]

Rheumatic Affections of the Throat and Nose. By Gilbert E. Seaman, M. D., of Milwaukee. [Reprinted from the *Milwaukee Medical Journal.*]

Miscellany.

A Case of Levant Fever.—In the January number of the *American Journal of the Medical Sciences* Dr. A. Alexander Smith relates the following case, which, he says, is the first case of Levant fever, so far as he has been able to ascertain, reported in this country: The patient was a married woman, thirty-four years old, who came under the author's observation on January 13, 1897. She had lived in the United States until 1885, when she went to Syria. There was no history of hereditary taint in the family of either of her parents. The patient had always enjoyed good health until the autumn of 1888, when she was compelled to leave Aleppo, where she had been for six months, on account of recurring attacks of intermittent fever. These attacks began with slight chilliness, the fever following being continued and lasting three or four days. The attacks came regularly once in two weeks. The last attack occurred in July, 1889, while she was traveling on the Cilician plain from Tarsus to Aintab. It was the most severe of all. During these attacks the blood was not examined. She had lived, before her marriage, in a malarious region in southern Iowa, but had never had any malarial manifestations before.

In the autumn of 1889 she moved to Beirut, Syria, where she was apparently perfectly healthy until the autumn of 1895. In the summer of that year she visited America, and became much run down while staying with her parents in southern Iowa. Upon returning to Beirut she had an unusually severe attack of typhoid fever, the fever lasting more than six weeks, and with hæmorrhages from the intestine in the fourth and fifth weeks. After recovering from the typhoid fever she regained her usual flesh and strength very rapidly, and was apparently in her ordinary health until July 4th following. On that evening she sat out rather late at a garden party. That night she began to have fever. It was of a remittent type, and lasted four weeks. There was no diarrhœa, no hæmorrhage from the nose or intestine, no eruption, and no cough.

Quinine was given in twenty-grain doses in the mornings, when the temperature was the lowest, the bowels having been previously cleared out, but with apparently no beneficial effect. At the end of four weeks the fever disappeared for three days, and then began again, but with greater severity, the morning temperature averaging 102.5° F., and the evening temperature 104° F. This second attack lasted also about four weeks. During the whole of the second attack she was kept on milk and Vichy. There was no delirium, no epistaxis, no eruption, no enlargement of the spleen, and no diarrhœa. After this attack she remained free from fever about three weeks, and then went up to a village on the Ante-Lebanon range, about six thousand feet above sea-level. Here the fever again returned, early in October, 1896, and was persistent up to January, 1897. In December the fever began to change its character (while she was on board a steamer leaving Beirut), and there was an intermission each day instead of a remission. She also began to have a slight chill each day (sometimes a severe one), and almost always at about the same hour. While in Switzerland, in December, she was given large doses of quinine, as much as ninety grains a day, but without benefit. Twenty grains a day by subcutaneous injection failed to give more than temporary relief. The voyage across the Atlantic, early in January, 1897, gave much benefit, and she has continued to improve daily since her arrival in America. The attack of fever at the present time lasts only a few hours, beginning about 2 P. M. and passing off about 6 P. M.

Since coming to New York she has taken quinine on several occasions on going to bed, and with apparent good results. Her menstruation during all these attacks has been fairly regular. Since October she has had almost constantly severe night-sweats. These were most severe in Montreaux, Switzerland, in December, 1896. They were, at times, so severe that she was obliged to change her clothing as often as three times during the night. During all these attacks she had a fairly good appetite, and seemed to digest her food with but little distress. When she was put on a pure milk diet, or milk and Vichy, her fever was not affected, and she lost flesh and strength more rapidly than when she was on a more liberal diet.

The author states that the foregoing history was furnished by the patient's husband, a physician, who has been practising in Beirut, Syria, for several years. He stated that his wife's case was similar to others he had seen, and said the disease was known there as Levant fever.

Dr. Smith states that when he first saw the patient a careful examination failed to reveal evidence of lesion of any kind anywhere in the body. She has been seen repeatedly since that time up to the latter part of April, and has on each occasion shown elevations of temperature at some time in the day, usually in the afternoon up to early evening. The daily variations have differed somewhat. At first they were about 2°, and in the month of February they continued about the same; but in March, for a period of six days, the diurnal variations were 3°. In April a careful record of the temperature was kept for ten days at a time, at two different periods, and the variations were sometimes as much as 4° F. When they were as great as this there would often be a subnormal temperature in the morning. Since the latter part of January, 1897, she has been able to go about the city, and even make short trips out of town to visit friends. The improvement in her general condition has corresponded with the results of the examinations of the blood during this period, which have shown a continual improvement.

Examinations of the blood, says Dr. Smith, revealed a parasite resembling somewhat the youngest forms of the organisms seen in the two types of malarial fever prevailing in this country. It differs from them in certain important particulars. It is found in the blood in the largest numbers during the height of the febrile paroxysm. In malarial fever the young intracellular hyaline forms of organism are not abundant until some hours after the height of the febrile paroxysm—*i. e.*, until sufficient time has elapsed after segmentation for the young parasites to penetrate the red blood-corpuscles. The time-cycle is shorter with this parasite than in the forms of malarial fever prevalent in this country. In the fevers of the tertian and double tertian (quotidian) type the time-cycle (*i. e.*, the time it takes the organism to go through all the stages of its development and begin anew) is about forty-eight hours. In æstivo-autumnal fever the time-cycle is about thirty-six hours, and in quartan fever about seventy-two hours. This parasite is resistant to quinine, while the younger forms of the malarial organism are very susceptible to it. Other differences are the larger size of this parasite, its freedom from pigment, its comparatively feeble power of amœboid movement, absence of segmentation, fainter outline, and absence of the characteristic forms of the malarial organism as we know it in this country (bizarre forms, ringlike forms, crescents, etc.). The case, Dr. Smith says, could only have been confounded with one of the æstivo-autumnal or fall type of malarial fever, as a case of tertian malarial fever would have shown the larger pigmented forms of the organism, and a case of æstivo-autumnal malarial fever of such long duration would, in all probability, show the so-called crescentic bodies.

Dr. Smith thinks that, although the organisms resemble very closely some of the forms of malarial organisms, there are many features about the case which would suggest that it is not malarial in its origin. Observers in the Levant have looked upon this type of fever as malarial, notwithstanding its marked resistance to quinine; but the fact that there is no pigment found in the blood plasma or in the corpuscles; that it is resistant to quinine; that no marked degeneration of corpuscles is produced, such as we see in malarial fevers in this country, and no enlargement of the spleen, would suggest more than a doubt of its being of malarial origin. It will be observed, Dr. Smith suggests, that, although she had lived in a malarious region in southern Iowa up to the time of her marriage, and various members of her family there had suffered from malarial manifestations, she had never had any such manifestation until she went to Syria to live.

The Comparative Physiology of the Suprarenal Capsules.—No. 381 of the *Proceedings of the Royal Society* contains a communication by Swale Vincent, M. B., in which he states that his attention has been devoted to the general physiological effects of extracts obtained from suprarenal capsules. The extracts were made separately from the cortex and the medulla, and injected subcutaneously into various mammals. It was noted, says the author, that the injection of medullary material was invariably fatal if a sufficiently large dose was administered, while the cortical extracts produced no appreciable physiological effects.

These observations have been corroborated, he continues, by testing the effects of the two kinds of gland in elasmobranchs and of the cortical suprarenals of teleosts, when extracts of them are injected subcutaneously into small mammals. Only very small quantities of material have been available for this purpose, but the effects upon mice have been quite definite.

The suprarenal bodies obtained from six specimens of *Gadus morrhua,* weighing in a moist state six grains, were extracted by boiling. The filtered extract was then injected beneath the skin of the back of a mouse, and no effects whatever supervened. Again, the author continues, the paired bodies from seven specimens of *Scyllium canicula,* weighing when moist four grains and five tenths, were extracted in the same way, and the filtrate administered to the same mouse (which had remained in perfect health) a few days later. The animal was immediately and powerfully affected. The breathing became very rapid, the limbs became weak, the temperature sank, and death ensued after convulsions in less than five minutes.

The interrenal gland produced no effects when administered in the same way.

A further experiment, the author goes on to say, with material obtained from *Raja clavata* was performed. The axillary hearts (anterior paired bodies) were removed from three fair-sized specimens, and found to weigh in a moist state three grains. The interrenal bodies were also removed, and weighed three grains. Extracts were then prepared of each of these, and injected subcutaneously into two mice of as nearly as possible the same weight. The mouse which was treated with the extract from the paired suprarenals was affected in a few minutes. The respirations were very quick at first, afterward becoming slower and slower. Paralysis quickly came on, first in the hind limbs. All the four limbs were distinctly stiffened before death, which supervened in two hours after the injection.

The other mouse, treated with extract of interrenal, died about twenty-four hours after the injection.

These experiments, says the author, afford further positive evidence of the homology of the paired bodies of elasmobranchs with the medulla of the mammalian suprarenal. The direct evidence in favor of the homology of the interrenal with the cortex of the suprarenal is mostly morphological and histological.

The Value of Expert Testimony in Medico-legal Cases from a Medical Standpoint.—In the January number of the *Buffalo Medical Journal* Dr. A. W. Henckell treats of this subject as follows:

"The mode of examining experts is, usually, in the form of a hypothetical question, put and paid for by the side calling the experts; in other words, the professional man testifies to certain opinions (which a man can change at will) for the benefit of the highest bidder. Has the medical fraternity reached so low a level as to forget the duties it owes to truth and veracity?

"The expert should be called for the purpose of assisting the law in the obtaining of justice for the prisoner, to assist the court and elucidate certain points to the jury. The hypothetical question has many objections urged against it. Hornblower says:

"'It is claimed, and with much truth, that the hypothetical question assumes as proved whatever the counsel putting the question has endeavored to prove, and combines insignificant with important circumstances and alleged facts, supported by slight and perhaps worthless testimony, with other facts of which the proof is strong and convincing, while omitting still other facts of equal or greater importance which may be overwhelmingly established by the other side.'

"Expert testimony based upon such one-sided hypothetical questions is almost of necessity favorable to the questioner, and the true remedy is that already adopted by the laws of this State in insanity cases—the appointment of a commission of experts.

"The primary object of expert testimony is not to prove opinions but facts, in the shape of rules of science or art, generally recognized by those who are especially instructed in such art or science.

"Lord Campbell stated, in the Tracy Peerage case, that 'skilled witnesses come with such a bias on their minds, to support the cause in which they embark, that hardly any weight should be given to their evidence.'

"Judge Davis, of the supreme court of Maine, stated: 'If there is any kind of testimony that is not only of no value but often worse than that, it is, in my judgment, that of medical experts.'

"From this it will appear how necessary it is for medical experts to free themselves from all bias and swear only to the truth, the whole truth, and nothing but the truth, without fear or favor.

"These criticisms are not always merited, and, if medical opinions were free from bias, such opinions would be of estimable value, as they are in Germany and France, where the expert becomes an official and a component part of the judicial system. The objection to the expert in this country is that parties pay and retain their own experts. The question of the compensation of the medical expert is one which has attracted the attention of the profession. Although most writers on medical jurisprudence make mention of the fact that they should, or must, receive remuneration, the question, I believe, has never been decided in this State. I have the opinion of one of the justices of the supreme court to the effect that the question has never been judicially settled. He stated, as a reason, that no physician would risk being fined for contempt, but would rather answer the question.

"In the recent Carlyle Harris trial, the most eminent experts in the State (and out of it) were called to give evidence. These men testified to facts, so called, but they were diametrically opposed to each other. Of what value was this testimony in the obtaining of justice?

"Again, in a recent murder trial in New York, experts were on the stand day after day, for the purpose of deciding the question whether or not the presence of human blood could be positively determined; but here again it was of no value to either side.

"In the Benham case the medical expert testimony was again brought into ridicule, to such an extent that the jury practically ignored the testimony of all the experts. The reason for this was very apparent, in that the jurors were not familiar with chemistry and its intricate technicalities. It is even asserted that while an eminent expert was giving his testimony a number of jurors fell into temporary somnolency.

"Again, in the Lütgert case, now pending, we find the experts at war with each other and exposed to the ridicule of the public. The aptness of some expert witnesses in murder trials is exemplified in this trial. One of the leading osteologists for the defense, on being shown the skull of a mammal, pronounced it as being the skull of a dog, describing in minutest detail its complete structure. After finishing his explanation, the prosecuting attorney informed him that it was the skull of a monkey. Recognizing the pit he had fallen into, he humorously remarked it was probably a monkey-faced dog.

"Considering the various phases of expert testimony, one can readily see that a remedy must be sought for and speedily put into practice, if the honored status of the medical profession is to be maintained. In my opinion there are two ways out of the difficulty—the first, the appointment of a commission by the court (I have already alluded to it in the early part of my paper); the other, the appointment of a commission of experts to receive the contentions of the experts of each side, and they to decide and present their finding as facts to the jury and not to be subject to review. In my opinion the latter plan is freer from criticism."

The Danger of Contagion from Typhoid Fever in Hospitals.—At a recent meeting of the Société médicale des hôpitaux, of Paris, a report of which is published in the *Indépendance médicale* for December 22d, M. Troisier stated that he had observed a case of typhoid fever in a young girl who was suffering from pleurisy, and that she had been surrounded by typhoid-fever patients. He stated, also, that the patient in question had taken nothing but a tisane, milk, and Dhuys water.

M. Netter recalled having observed in the Trousseau Hospital twenty-seven similar cases, twelve of which had been among the attendants of the service.

M. Gaillard had observed a case of typhoid fever which the patient had contracted while in the hospital.

M. Richardière had seen a similar case of contagion in a patient suffering from myelosyringosis. In this case the pulmonary symptoms had predominated, and this had led him to the supposition that the contagion had been introduced by the respiratory tract.

Tongaline in the Treatment of Rheumatism.—Dr. C. W. Canan, of Orkney Springs, Virginia (*St. Louis Medical and Surgical Journal*), states that for the past seven years he has used tongaline, and that for the last year he has observed particularly good results from its employment in rheumatism, neuralgia, and sciatica, results which he attributes to his method of using it. In very severe cases of inflammatory rheumatism he begins by giving a teaspoonful every hour, in a wineglassful of water as hot as the patient can bear. After each dose more hot water, as much as the patient can take, is given. Under this treatment, he says, he has seen the temperature fall from 104° to 100° F. and the pain disappear within six hours. If the stomach will not tolerate tongaline, he has the painful parts sponged with alcohol or soda water, preferably the latter, and then rubbed with tongaline. Heat is then applied by means of a hot-water bag or by some other convenient method. He reports good results also in cases of subacute and chronic rheumatism and of sciatica, lumbago, and influenza.

Intestinal Congestion and Hæmorrhages produced by Intravenous Injections of Microbian Toxines.—In an article on this subject in the *Lyon médical* for December 12th M. Teissier and M. Guinard state that the experiments of Charrin, Courmont and Doyon, Guinard and Artaud, Arloing, Lépine, and Lyonnet, and their own rather numerous experiments show that certain gastro-intestinal hæmorrhages, which are even startling in their rapidity and intensity, may be the exclusive work of microbian toxines acting as powerful vaso-dilator poisons.

In regard to the mechanism of the production of these toxic effects, the prevailing localization of the congestive symptoms in the intestinal mucous membrane enabled the authors to consider the effects of elimination; they believed and insisted, with some appearance of reason, that the enteritis, limited to the small intestine, which produced the diphtheritic toxine, proceeded from the fact that this toxine found there the elective seat of its elimination.

If the vascular system of the intestine is that toward which the vaso-dilator action of the poison is especially directed, they say, other portions of the circulatory apparatus are also influenced in such a way that in other regions and other organs, even though they do not share the eliminating functions, the symptoms of congestion, although less intense, are not less evident.

The vaso-dilator action of the microbian toxines, of the pneumo-bacilli in particular, is general; the entire system of the vasomotor nerves is impressed; there is a total relaxation of the blood-vessels, which manifests itself, when it is produced, by a lowering of the blood pressure. This lowering begins a short time after the first appearance of the toxic symptoms; it was evident and easy to follow it, the authors state, on the charts which they made, on which it was seen to show itself slowly and very progressively.

The decline of tension reaches a very low level, and during the moments that precede death there is hardly any arterial pressure; all the blood-vessels are relaxed; they lose their tonicity, and, adding to this the feebleness of the cardiac contractions, one may understand that at the opening of an artery, even near the heart, the blood may be seen to flow without force or impetus, almost as if it had escaped from a vein.

But the fall of the pressure at these extreme limits is usually made in a sudden manner. Although it is inferior to the normal and progressively descending, during the evolution of the toxic symptoms, it maintains a certain level for rather a long time, and yields suddenly during the entire latter stage of the intoxication.

The circulation of the abdominal system, including that of the intestinal blood-vessels, represents physiologically the normal drainage, the reservoir of safety, which, by the tract of the reflex of the depressor nerves, insures the preservation of the constant equilibrium of the arterial tension.

It is in this system, which is very rich, very inactive, and very variable in its capacity, that the compensations are made which insure the preservation of the level of the pressure, in spite of the varying conditions of the heart and of the vasomotor nerves of other regions.

The authors do not doubt, from their physiological rôle, the much greater impressibility of the vasomotors and of the intestinal blood-vessels, an impressibility which renders them more susceptible to the vaso-dilator effects of the toxines, and exaggerates, in the intestine, the grave congestive symptoms which consequently follow.

On the whole, the authors are of the opinion, without denying the possibility of elimination of the toxines by the intestinal tract, that the congestive symptoms and the grave hæmorrhages which these toxines cause are consequent upon their powerful vaso-dilator action, and that this depends upon a direct influence of the medulla or of the peripheral ganglia on the vasomotor nervous centres.

If to this are added the possible production of lesions involving the structure of the capillary walls and the alteration of the anatomical elements or of the chemical composition of the blood, we have all the conditions needed to explain the pathogeny of the gastro-intestinal hæmorrhages that are seen during the course of infections.

The Woman's Medical Journal.—The managing editor of this journal, published in Toledo, informs us that Dr. Eliza H. Root, professor of obstetrics in the Northwestern University Medical College, is to take charge of the department of obstetrics.

Iodoform as an Irritant.—In the *Indian Lancet* for December 1st, Mr. B. N. Chowdhry remarks that the properties of iodoform as described in the books are found different in practice, that the action of iodoform is not the same in all constitutions, and that it is not a non-irritant always. As an illustration of this, he relates his own experience. Two years before writing his article he struck his leg against a board, causing a wound which gradualy turned into an ulcer. As the sore was healing rather slowly, he dusted some iodoform powder over it, thinking it would hasten the healing process, but a few hours afterward he found that the sore had become very irritable, and there was a continuous copious discharge of an acrid, watery fluid. Wherever the secretion touched the leg the skin became very irritable and rose in blisters which developed into fresh ulcers. These did not heal until after the use of the iodoform was discontinued, and other medicines were applied.

The author states that since then his skin has been very sensitive to the action of iodoform, and that whenever his hands and fingers come in contact with the drug the skin becomes very irritable, and blisters form all over the hands, principally on the fingers. They continue for two or three days and then heal after the application of a caustic lotion.

The author states that he has seen many cases in which iodoform caused irritation when applied to sores, and produced inflammatory pustules on the surrounding skin. This irritant property, he says, is retained even when the iodoform is mixed with boric acid. In such cases the author substitutes finely powdered charcoal prepared by burning old leather. This acts in the same way as iodoform, but without showing any of its irritant properties.

Rupture of the Heart.—In the December number of the *Indian Medical Gazette* Mr. J. B. Gibbons gives the following account of a case which came under his observation: The patient, who was a cooly thirty years old, was said to have been struck with a bamboo stick, to have fallen immediately on receiving the blow, and to have vomited. He was taken to the Medical College Hospital, where he died three hours afterward. The cause of death was suspected to be rupture of the spleen. The post-mortem examination revealed the following conditions: The body was fairly nourished, and rigor mortis was present. There was an abrasion on the right hip, but no bruise beneath. A similar abrasion was found on the right side of the small of the back. There was a linear scratch on the right side of the chest, over the sixth and seventh ribs, behind the axillary line. On the left side of the chest, below and to the inner side of the nipple, there was an elliptical abrasion directed obliquely downward and inward over the fourth and fifth ribs. The skin in the centre of the abrasion was intact, and in the tissues beneath there was a small bruise. There were no other external marks of violence.

When the abdomen was opened the stomach was seen to be greatly distended. There were about three ounces of serous fluid in the peritoneal cavity. The spleen was uninjured and healthy. On removal of the front of the thorax, the pericardial sac was found to be full of blood partly clotted. The quantity was estimated at fourteen ounces. The heart was contracted and there was a small irregular-shaped rupture in the apex, communicating with the right ventricle. The cavities of the heart were nearly empty. The contracted state of the organ prevented an exact measurement. The muscle fibres appeared quite healthy, and the wall of the right ventricle of usual thickness, except at the apex, where, at the site of the rupture, the layer of muscle was very thin—much thinner than in another heart examined at the same time.

The author estimated the thickness of the muscular wall to be equal to that of stout brown paper. The muscle about the rupture was healthy, and there were no signs of myocarditis, recent or of old standing. The quantity of fat on the heart was small, as is usual in men of the class to which deceased belonged; the arteries and valves of the heart were quite healthy.

The stomach contained a large quantity of rice and fluid, amounting to forty-eight ounces. The organs generally were healthy.

Rupture of the healthy heart, the author thinks, is a comparatively rare injury even in cases where the chest has been subjected to great violence, and when present is commonly associated with fractures of the ribs or sternum, and often with rupture of other organs, such as the lungs, liver, or spleen. There are, however, he adds, many cases on record which show that rupture may occur without fracture, or even without sign of injury of the chest wall.

The chief peculiarity of this case is, he thinks, that a blow with a stick, which was described by witnesses as an ordinary walking stick, hurriedly struck by a man of poor physique, should have ruptured the heart, an organ which generally escapes injury when the thorax has been subjected to great violence.

The explanation of the result of the blow, he thinks, appears to be in the unusual thinness of that portion of the right ventricle which gave way under the blow, and in the abnormal position of the heart due to the distended state of the stomach. As regards the former, he states that he examined the apex of the right ventricle in several hearts, and in none was the muscular layer so thin as in this case; though undoubtedly of unusual thinness, the muscle fibres through which the rupture occurred were healthy, and the fact that the deceased was a cooly shows that they were equal to the strain of a laborious vocation. The state of his heart was congenital; there was no sign of disease in any part of it.

Mr. Gibbons considers that the second condition really led to the fatal result, as, at the time the blow was struck, the man had just eaten a large quantity of bulky food. In the post-mortem room the stomach contents measured forty-eight ounces, though the man had vomited on being struck. The effect of the distention of the stomach on the position of the heart must have been considerable; the organ would be pushed upward and forward against the chest wall and its mobility greatly impeded. Under ordinary conditions the position of the heart is such that the force of a blow on the chest wall hardly affects it, the contact of the heart with the chest wall being slight and the organ movable.

If, continues the author, as in the present case, the heart is pushed upward by a distended stomach, a large area of the front of the right ventricle will lie in close contact with the chest wall and will receive by direct conduction nearly the full force of a blow falling on the chest wall over it. Under these conditions, a blow of moderate violence falling on the cardiac region at the moment when the right ventricle was distended with blood would be sufficient to rupture it, the wall giving way at the weakest point, which, in a healthy heart, is at the apex, where from the arrangement of the muscle fibres there is less strength than in other parts of the ventricle. In the case described it happened that the apex was unusually weak, which no doubt facilitated the result.

The Treatment of Carbolic-acid Poisoning with Vinegar.—The following case is related by Dr. A. Paget Steavenson in the *Indian Medical Record* for December 1st: The patient was a girl, eighteen years old, who said she was subject to "fits." On August 3, 1896, she was taken with one, and when the physician saw her she was in a semiconscious condition and frothing at the mouth. She had vomited slightly, and the vomited matter had a sour smell, but no carbolic-acid odor was observed. She regained consciousness, and a bromide draught was administered. She gradually became worse and another physician was called to see her. He diagnosticated the case as one of carbolic-acid poisoning, and, as he could not rouse her or get her to swallow anything, he ordered her to be taken to the hospital.

When she was admitted she was quite unconscious, cyanosed, and nearly pulseless. The lips and the tongue were discolored, and the breath had a slight carbolic-acid odor. The author gave her a hypodermic injection of strychnine (one eightieth of a grain). He then passed a soft stomach-tube, washed the stomach out with equal parts of vinegar and water, and followed this with about six pints of warm water. He then gave her five ounces of milk and an ounce of brandy. She was then put into bed and kept warm. She gradually regained consciousness, and a few hours afterward she was able to speak. She was fed on Benger's food, milk, and soda water for the next three days. She did not vomit or complain of any pain. Carboluria was present for two days.

The author states that he was led to use vinegar in this case by Professor Carleton's suggestion in the *Practitioner* of August, 1896. He can not state definitely how much carbolic acid was taken. The long period of unconsciousness, the rapid recovery, and the absence of discomforting after-effects speak well, he thinks, for the vinegar, and he is of the opinion that it should be given a fair trial, especially as it is a remedy easily obtained.

The Indications and Contraindications for Bicycle-riding in Women.—Fauquez's conclusions in the *Journal des connaissances médicales* for August 26th may be summed up as follows (*Gynécologie,* December 15th): Bicycle-riding may be recommended in cases in which there is absolute integrity of the genital organs, for anæmic and chloro-anæmic persons, for dyspeptics, for neurasthenics, for sterile and obese persons, for young girls in whom menstruation is not normally established, and for women who have suffered from troubles dependent upon the menopause.

In cases of diseases of the uterus or the ovary this exercise may be advised as follows: 1. In uterine congestion. 2. In amenorrhœa or suppression of menstruation connected with an arrest of development of the ovaries and of the uterus, with anæmia, chloro-anæmia, digestive troubles, neurasthenia, and chronic affections; with troubles resulting from physical or mental shock, cold, etc. 3. In dysmenorrhœa connected with nervous troubles. 4. In congestive dysmenorrhœa due to any cause capable of provoking congestion in the uterus and the ovary, such as physical or mental shock. 5. In deviation of the menses or supplementary menstruation. 6. In fibrous tumors when the hæmorrhagic stage has passed.

Bicycle-riding may be permitted in cases of mechanical dysmenorrhœa due to an obstruction to the discharge of blood, either congenital or acquired, and in membranous dysmenorrhœa; in cases in which the uterus becomes displaced; in cases of chronic metritis connected with the arrest of involution of the uterus after confinement or abortion, if it is not painful and recovery has begun. In this case, however, the exercise must be taken in moderation; in cases of leucorrhœa in anæmic and chloro-anæmic persons, and in cases in which the general condition is weak.

Bicycle-riding must be absolutely proscribed as follows: 1. In amenorrhœa connected with pulmonary phthisis, cancerous affections, diabetes, organic diseases of the heart, and diseases of the kidneys, such as albuminuria. 2. In cases of metrorrhagia or excessive menstruation. 3. In cases of inflammation of the uterus and its annexa, acute metritis, chronic painful metritis, hæmorrhagic endometritis, purulent endometritis, leucorrhœa connected with an inflammatory condition of the intra-uterine mucous membrane, inflammation of the annexa, salpingitis, oophoritis, salpingo-oophoritis, perimetritis, pelvic cellulitis, and pelvic abscesses. 4. In cases of pelvic hæmatocele and of fibrous tumors during the hæmorrhagic stage. 5. In cases of inflammation of the vulva or vagina before complete recovery.

Cold in the Ætiology of Diseases.—Chelmonski, in the *Deutsches Archiv für klinische Medicin,* 1897, page 140, reaches the following conclusions (*Gazette hebdomadaire de médecine et de chirurgie,* December 19th):

1. Taking cold, in the ordinary acceptation of the term, does not exist. 2. The ætiological rôle of cold is very subordinate; in inflammatory affections it does not figure, except as a predisposing cause. 3. Chilling is dependent upon the action of thermic agents that are ordinarily difficult to avoid. 4. The mode of reaction of the skin against the thermic excitation produced indicates whether the individual may, in certain conditions, contract a cold. 5. The degree of tendency to colds is not a constant property of the individual. 6. Old persons, those attacked with intermittent fever, and individuals suffering from renal affections seem to be more subject to taking cold. 7. There does not exist any relation between the tendency to colds, on the one hand, and the condition of nutrition and the thermic sensibility, on the other. 8. Individuals may be protected from diseases caused by cold by developing, with appropriate means, the power of reaction against the thermic influences.

THE NEW YORK MEDICAL JOURNAL, JANUARY 22, 1898.

Original Communications.

THE ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM AND ITS CONSTITUENT NEURONES,

AS REVEALED BY RECENT INVESTIGATIONS.

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III.

(Concluded from volume lxvi, page 726.)

HELD finds in sections from one half of a micron to one micron thick that the Nissl bodies present an exquisitely granular structure (Fig. 59). With high powers they are seen to be made up of masses of granules, some of the constituent granules being very small, others very coarse. They have a rounded form, and when not too close together appear in rows and radii. In some cells, where the constituent granules are very close to one another, a granular structure is recognizable only in extremely thin sections with the aid of strong immersion lenses and favorable illumination. But Held maintains that in reality all are composed of granules. In some cells the granules, instead of being grouped in clumps, appear to be more or less evenly distributed throughout the whole of the cell body.

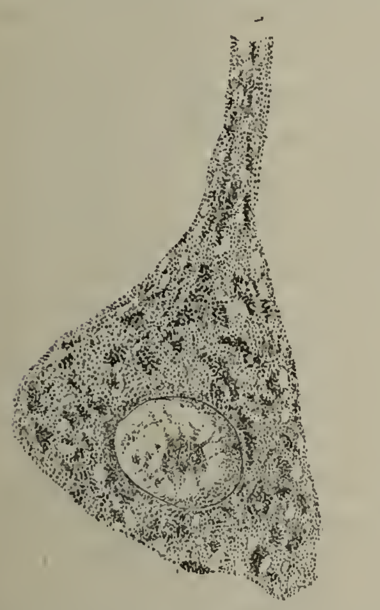

FIG. 59.—Cell of ventral horn of gray matter of human spinal cord. (After Held.) The tissue has been fixed in picrosulphuric acid and imbedded in paraffin. Sections one micron in thickness. Stained with erythrosin and methylene blue. The Nissl bodies are seen to be made up of masses of minute granules. The fine granulation of the ground substance is also apparent.

In many instances with the erythrosin-methylene-blue stain the granules are not in contact with one another, but are imbedded in a coagulum-like mass which stains violet and is easily distinguishable from the bright blue of the granules proper and the red of the ground substance lying between the Nissl bodies (unstainable substance of Nissl), so that Held describes the Nissl bodies as being made up of two constituents, one granular, the other coagulum-like, with sometimes a third—namely, the vacuoles.

Held describes in detail his study of fresh ganglion cells in physiological salt solution and in vitreous humor. Except the flat gray glistening nucleolus, with sometimes a vacuole and accessory nucleoli, and a homogeneous transparent nucleus limited by a narrow, doubly contoured membrane, nothing could be made out. A few dark granules only could be seen within the protoplasm, even in the most favorable cases, and he asserts that when he worked quickly the protoplasm remained almost absolutely free from granules. The Nissl bodies are invisible in fresh cells. Held treated the fresh cells with various reagents in order to make out, if possible, the action of swelling and fixing solutions upon the structure. He found that on adding methylene blue in dilute solution he obtained a result which led him to think that the blue acts upon fresh tissue as a fixing agent at the same time that it exercises a staining influence.* With other fixing agents Held obtained dark masses after vacuolization, which he thinks represent the Nissl bodies. He believes, therefore, that we have no right to think of the Nissl bodies as of an organized nature or as representing preformed cell organs. Basing his experiments upon those of Fischer concerning the mode of action of fixing agents, he thinks that the Nissl bodies represent simply substances precipitated from solution by the action of the fixing mixtures. They are not visible in fresh protoplasm, but dark masses corresponding to them are obtained on the addition of fixing reagents.

Held undertook a most careful and exact chemical study of the granules in alcohol tissues. Thus, he found that the Nissl bodies are insoluble in dilute and concentrated mineral acids, in acetic acid, boiling alcohol, cold or boiling ether, and in chloroform. On the other hand, they are easily soluble in dilute and concentrated alkalies. With pepsin and hydrochloric-acid digestion he found that the ground mass of the protoplasm vanished and that the Nissl bodies alone remained undigested (Fig. 60), the reverse of what occurred on treatment with an alkali (Fig. 61). The Nissl bodies yielded no reaction with Millon's or Adamkiewicz's reagent. Held obtained, however, slightly positive results with Lilienfeld and Monti's microchemical test for phosphorus, and a considerable quantity of the gray matter of the

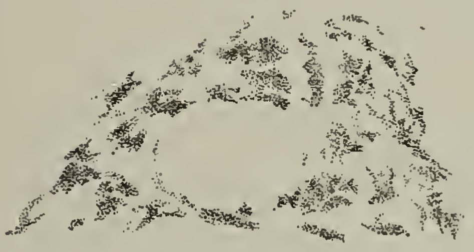

FIG. 60.—Nerve cell from Deiters's nucleus in the rabbit. Section three microns thick. The tissue has been exposed to the digestive action of a mixture of pepsin and hydrochloric acid at 40° C. for twelve hours. The ground substance has been dissolved out and the Nissl bodies alone remain. (After Held.)

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* In the histological course in the Johns Hopkins Medical School the treatment of freshly teased ventral horn cells with methylene blue is now employed as one easy and satisfactory mode of demonstrating the Nissl bodies in the cell bodies, and especially in the dendrites. I have repeatedly convinced myself of the homogeneous appearance of the protoplasm of the nerve cell when it is examined immediately after removal from the living body. Only after the lapse of a certain time do masses which correspond to the Nissl bodies become visible.

spinal marrow after digestion with pepsin and hydrochloric acid examined by Siegfried, of the physiological laboratory of Leipsic, showed the presence of phosphorus. Held concludes, therefore, from these various reactions, that the Nissl bodies belong to the group of the nucleo-albumins, a view which agrees with the investigations of Haliburton, who found in the gray matter a nucleo-albumin which coagulated at from 55° to 60° C., and which contained as much as 0.5 per cent. of phosphorus.

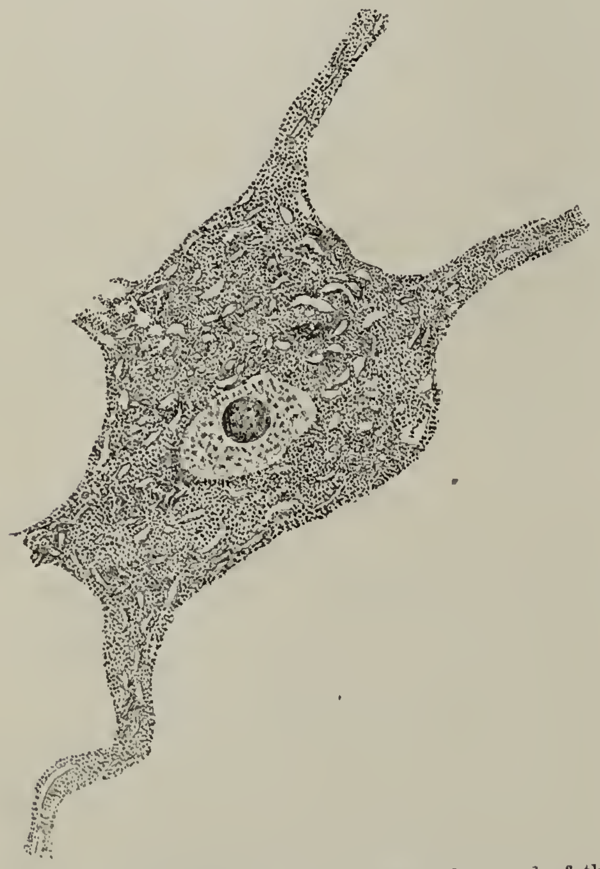

Fig. 61.—Nerve cell from the gray matter of the lumbar cord of the ox. Alcohol fixation. Treatment for four days in concentrated aqueous solution of lithium carbonate. The Nissl bodies have been dissolved out, and the ground substance alone remains. (After Held.)

Held believes that these nucleo-albumins, though invisible in the fresh protoplasm, are present in it in solution, and that they first take the form of Nissl bodies when the protoplasm is subjected to the action of fixing reagents. In further support of this view he found that with the different kinds of fixing reagents and with varying concentration of the same reagent quite different histological pictures of the Nissl bodies and of the masses lying between them could be obtained.[*] If these investigations of Held are confirmed—and the accuracy with which this work has been conducted, as well as that of his previous contributions, leaves but little room for doubt upon this point—we must admit that his suggestion that they yield an index to the internal metabolism of the nerve-cell protoplasm is entirely reasonable, and that through fixation and staining we can obtain an idea of the stock in trade, as it were, at the moment inside of the nerve cells.

If we are left in doubt, then, as to the exact nature and significance of the portions of the nerve-cell body stainable by Nissl's method, we are in a still greater dilemma as regards the character of the non-stainable part, the visible unformed substance of Nissl. While Nissl himself lays great stress upon the significance of the stainable substance, he grants that the non-stainable substance is probably just as important, indeed, possibly of much greater consequence.

Rosin's studies convinced him that the ground substance of nerve cells had a distinct elective affinity for acid dyes; he therefore speaks of this portion of the cell body as acidophile as contrasted with the basophile constituent, by which he means the stainable substance of Nissl. The majority of investigators, but by no means all, are agreed that the non-stainable substance of the cell body is closely allied to, if not identical in structure with, that of the axone and of the axone hillock. Others, however, look upon the axone as a specifically differentiated portion of the ganglion cell body, differing entirely from it in structure. Benda has advanced a number of interesting hypotheses in this connection, comparing the histogenesis of the nerve cell and its processes to the development of the striped muscle fibre. The cells which give rise to muscle fibres, the so-called sarcoblasts of Marchesini, contain a protoplasm which, in part, becomes differentiated to form the muscle fibrils, but in small amount persists as the so-called sarcoplasm of adult muscle. Benda describes the neuroblast of His as being made up of protoplasm and of paraplasm,[*] the latter belonging, according to him, to the non-stainable portion of the nerve-cell body. Benda thinks that the protoplasm of the neuroblast in the course of development is in part differentiated into a fibrillary substance constituting the nerve fibrils of the axone as well as portions of the cell body and dendrites, but in part remains undifferentiated, even in the fully developed nerve cell, as basophile neuroplasm, quite analogous to the sarcoplasm of muscle. Nissl has objected that these hypotheses are purely theoretical, and states that the developmental course of a neuroblast can not be brought into analogy with that of a sarcoblast.

One thing would seem certain, if we have to deal in nerve cells with a fibrillary structure at all, the fibrils must be sought within the "non-stainable" portion (in the sense of Nissl) of the cell. Becker * has recently asserted that he has stained electively with hæmatoxylin-copper the substance of the nerve cell which remains unstained by Nissl's method, and finds that it consists essentially of actual nerve fibrils. It represents, he says, the direct continuation of the primitive fibrils of the axone into the cell body and the dendrites, an idea which approaches closely to that advanced by Max Schultze. Becker's studies were made upon the motor cells, and Nissl has recently agreed that the existence of the fibrillary nature of this part of the cell body has been proved for these cells. He says, however, that Becker's method does not suffice for the decision of the question in all varieties of nerve cells, and that the nature of the structure in cells other than the motor cells must for the present remain undecided.

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[*] For example, forty per cent. alcohol precipitates a part of the Nissl bodies much more finely granular than does ninety-six per cent. alcohol, while the part of the granules otherwise precipitated in coagulum-like masses is not precipitated at all, so that one sees distinct spaces between the single fine granules in the larger Nissl bodies.

[*] Von Kupffer (Ueber Differenzirung des Protoplasmas an den Zellen thierischer Gewebe. *Schriften des Naturwiss. Vereins für Schleswig-Holstein*, Bd. i, H. 3, S. 229, Kiel, 1875) first contrasted the "protoplasm" with the "paraplasm" of cells. He used the word protoplasm to indicate the internal or endoplasmic portions of the cell body—that is, those adjacent to the nucleus—while the word paraplasm designated the peripheral cell plasm. The terms had therefore only a topographical signification and had no reference to the finer protoplasmic structure, as have the words mitom and paramitom, spongioplasm and hyaloplasm. Many histologists have failed to recognize this fact—Benda, for example, quoted here, uses paraplasm in the sense of paramitom.

Held, in addition to his studies of the stainable part, has also directed his attention to the ground mass of the protoplasm of nerve cells, although up to the time of writing the full results of his research have not been published.† He states, however, that it has in sections fixed with alcohol, picrosulphuric acid, and chromic acid a distinctly reticular appearance. In very thin sections he can make out granules which are extremely fine, staining on the limits of microscopic perceptibility. No fibrillæ could be observed except at the wedge of origin of the axone. Here he could make out, stained bright red in erythrosin, extremely fine granules arranged in rows and pressed together, as it were, so as to give the appearance of fibrillæ. The axone itself appeared longitudinally striated, but the fibrillæ could not be said to be made up of granules, but rather of small regularly recurring nodule formations. With dilute alcohol, or Van Gehuchten's mixture, one obtains apparently a fibrillary arrangement in the dendrites when stained with erythrosin and methylene blue, and Held at first thought that he had found the Schultze fibrils. On using dilute solution of chromic acid, however, and of ammonium bichromate, he did not obtain fibrils, but in the thinnest sections saw distinct foam-like structures; especially on staining with iron-hæmatoxylin without any subsequent differentiation, he obtained honeycomb pictures which correspond entirely to the pictures and descriptions of Bütschli. Held is inclined to accept Bütschli's view that the fibrillæ of the older observations correspond to longitudinal layers of honeycomb cells which lie close over one another, or to the transverse walls, not made sufficiently visible by staining. He will not grant, however, that the nerve cell actually possesses a honeycomb structure, since he believes that fixing agents with which it appears exercise a marked vacuolizing influence upon living nerve-cell protoplasm.* Nor does Held accept Rosin's view that of the two main substances in nerve cells one is acidophile and the other basophile. Relying rather upon the recent researches of A. Fischer,† and of the Italian investigator Galeotti,‡ he has come to the conclusion that the so-called elective stains depend more upon physical factors than upon purely chemical differences. In the first place, closely arranged granules absorb coloring matters much more intensely and hold them longer when subjected to differentiating fluids than loosely built parts; and secondly, the covering power (*Deckkraft*) of dyes has to be considered, since through covering-over constituents, stains which are really only apparent can result. Methylene blue, for example, is known to have a very high covering power.

The views which have been held regarding the structure of the axone are as divergent as those concerning the structure of the non-stainable portion of the nerve cell generally. The idea that it possessed a fibrillary structure, suggested by Remak and so strongly urged by the two Schultzes (Max Schultze and Fr. Schultze), received important confirmation in the researches of Schiefferdecker.# This histologist found, in the perfectly fresh nerve fibres of petromyzon, undoubted evidence of the existence of fibrils inside the axone (Fig. 62). The axones of the nerve cells of this animal consist of two essential constituents, the axone fibrils and a homogeneous substance, the axoplasm or neuroplasm. In petromyzon the axone fibrils tend to run in the centre of the axone, a large area at the periphery of the axone being entirely free from fibrils. This peripheral zone consists entirely of neuroplasm, which also extends in among the fibrils of the central core. The fibrillary

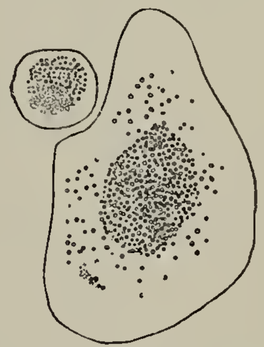

FIG. 62.—Cross sections of two axones from the nervus trigeminus of *Petromyzon fluviatilis.* (After Schiefferdecker.) The core of axone fibrils is surrounded by a peripheral layer of nonfibrillar neuroplasm.

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* XX. Wanderversammlung der südwestd. Neurologen und Irrenärzte in Baden-Baden am 25. und 26. Mai 1895. *Archiv f. Psych. u. Nervenkr.*, Bd. xxvii, 1895, S. 953

† Since the foregoing was written the full report referred to has appeared in the *Archiv f. Anat u. Physiol*, anat. Abth., 1897, H. iii and iv, pages 204–294. In this Held supports Bütschli's doctrine of a honeycomb structure to the ground mass of the protoplasm of the nerve cell. He believes that the fibrils described by many authors represent the lateral walls of the vacuoles, or honeycomb compartments. With careful staining, however, and the avoidance of too bright illumination, it is always possible to show transverse markings connecting the longitudinal beams. It is in this article that Held brings forward his very important observations which favor the view of a union between individual neurones of a nature more intimate than that assumed by the "contact theory." If his findings are confirmed, the doctrine of "contact" must give way to the doctrine of "concrescence."

* Ramón y Cajal (*op. cit.*) has recently supported vigorously the doctrine of a honeycomb structure for the unstainable substance.

† Fischer, A. Zur Kritik der Fixirungsmethoden und der Granula. *Anat. Anzeiger*, Bd. ix, Nr. 22, S. 678–680; also Neue Beiträge zur Kritik der Fixirungsmethoden. *Anat. Anzeiger*, Bd. x, Nr. 24, S. 769.

‡ Galeotti, G. Ueber die Granulationen in den Zellen. *Internat. Monat. f. Anat. u. Physiol.*, xii, 1895, Heft 11 und 12, S. 440.

# Schiefferdecker, P., in Schiefferdecker u. Kossel, *Gewebelehre*, Bd ii, S. 200.

structure is easy to make out in the axones of cyclostomes and molluscs (Rawitz). Subsequent researches upon higher forms make it not improbable that a similar structure holds in them. It would appear, however, that in medullated nerve fibres the axone fibrils are more evenly distributed throughout the whole axone. the peripheral layer of pure neuroplasm being absent altogether or reduced to a very thin superficial film (Fig. 63). There are many histologists, however, who refuse to believe in the existence of actual fibrils inside the axones of higher animals. The doctrine of the fibrillary nature of the axone and unstainable portion of the protoplasm of the nerve cell has recently received support from the studies of Lugaro * and of Levi.† The former, too, in his studies of the nerve cell under pathological conditions—for example, after poisoning with lead and arsenic—finds that the fibrils may become very distinct inside the nerve cells.

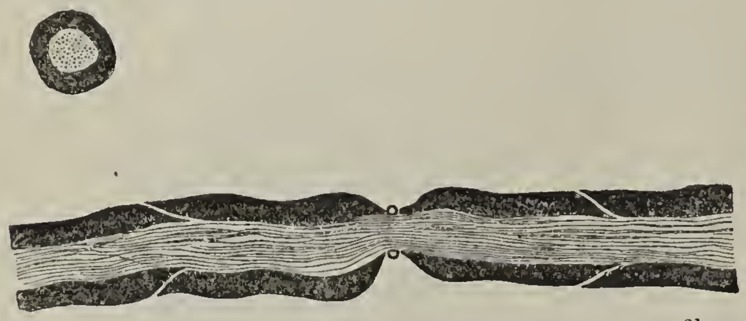
FIG. 63.—Longitudinal and transverse section of medullated nerve fibres from the sciatic nerve of the frog (osmic acid and acid fuchsine). (After Biedermann.) The longitudinal section shows one node of Ranvier and two of Lantermann's segmentations. The fibrillary structure of the axone is shown in both long and cross section.

It must be obvious that the idea entertained by any given investigator regarding the ultimate structure of the nerve cells is colored deeply by the opinion which he holds as to the nature and structure of protoplasm in general. Until some agreement has been arrived at among cytologists regarding the latter, we can scarcely hope for a unanimity of opinion concerning the former. It is not necessary here to discuss in detail the diverse theories bearing upon the nature of protoplasm. A whole series of them—the micellar theory of Nägeli, the network theory of Frommann, the thread-framework theory of Flemming, the foam or honeycomb theory of Bütschli, the plasome theory of Wiesener, the bioblast theory of Altmann, as well as many others—have been fully outlined and compared in several places.‡ The majority of histologists and zoologists can not conceive of the cell as the elementary organism of the body, but postulate the existence of units or elementary organisms much smaller than cells. Those who are interested in developmental relations and their bearing upon heredity have perhaps gone furthest in this direction. Roux, an apostle of the mechanical theories of development, not only assumes the existence of elementary organisms within the cell, but classifies them into a number of varieties corresponding to their main characteristics—for example, into "idioplassonten," "isoplassonten," "automerizonden," "autokineonten"; and those who are familiar with the writings of Weissmann will remember the enormous significance which is attached to his "biophores," "ids," and "determinants."

In fine, the status of our knowledge about the internal structure of the protoplasm of nerve cells may perhaps be summed up as follows: A neurone is made up, like all other cells, of nucleus and protoplasm. In the latter a centrosome and an attraction sphere are present; at least it has been demonstrated in a certain number of nerve cells. The protoplasmic portion of the cell can be roughly divided into a peripheral exoplasmic portion and a central endoplasmic portion. In neurones, as in muscle cells, though less distinct in the former than in the latter, there is a tendency to a fibrillary structure, the fibrillæ tending to occur in the peripheral exoplasmic portion of both nerve and muscle cells rather than in the endoplasmic portion of the protoplasm. In both exoplasm and endoplasm there can be made out in tissues which have been fixed a more or less homogeneous ground substance in which are deposited larger and smaller masses of a granular nature. The ground substance corresponds in tissues fixed with alcohol and stained by the methods of Nissl and Held to the "unstainable substance" of Nissl, and the masses of granules to the "stainable substance" of Nissl and the pigment.

The "stainable substance" of Nissl in healthy animals of the same age and species, with the same method of fixing and staining, is tolerably constant in appearance and arrangement in the cell bodies and dendrites of the same group of nerve cells, a fact of extreme importance for nerve anatomy and pathology. The axones appear to be entirely devoid of the "stainable substance" of Nissl.

Whether the stainable substances represent bodies precipitated from solution through the action of reagents or bodies pre-existent though invisible, first brought into view through the action of fixing or staining reagents in the hardened tissues, in either case they appear to yield the chemical tests characteristic of the group of nucleo-albumins. Whether the staining reaction characteristic of the stainable substance depends upon chemical relations or upon purely physical conditions must, for the present, remain undecided.

The "unstainable portion" of the cell body—that is, the ground substance—though probably functionally

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* Lugaro, E. Sul valore rispettivo della parte cromatica e della acromatica nel citoplasma delle cellule nervose. *Riv. di pat. nerv. e ment.*, vol. i, 1896, fasc. 1, p. 1.

† Levi, G. Su alcune particolarità di struttura del nucleo della cellula nervosa. *Riv. di pat. nerv. e ment.*, vol. i, 1896, p. 141.

‡ *Cf.* Hertwig, O. *Zelle und Gewebe*, Jena, 1892; and especially for a brief but thorough critical review consult Waldeyer, W., Die neueren Ansichten über den Bau und das Wesen der Zellen. *Deutsche med. Woch.*, 1895, xxi, Nos 43, 44, 46, 47, 48, 50. For an admirable review of the modern literature concerning the finer structure of the cell, in which many original observations are included, the book of E. B. Wilson, which has recently been published, entitled *The Cell in Development and Inheritance*, is heartily recommended.

much more important than the stainable * is not so well understood; its nature and structure are still as obscure as those of protoplasm in general. In this ground substance, aside from the Nissl bodies, very fine granules or nodule formations can be demonstrated which stain with erythrosin (Held), and in certain parts of the neurones these are arranged in rows, thus bringing the nerve cell into agreement with what has been observed in animal cells generally. The ground substance is easily vacuolizable, and the erythrosinophile granules apparently represent the nodal points of the meshwork which results from the vacuolization. With suitable methods not only can longitudinal markings connecting these nodal points be made out, but also more delicate transverse markings. The peculiar "neurosomes" described by Held are minute stainable masses which lie inside the vacuoles or in their walls.

We can scarcely hope for a clearer understanding of the structure of nerve cells until our general cytological knowledge has been extended. If too great a degree of importance appears to have been attached to the work which has been done upon the structure and nature of the substances within nerve cells, two ideas have influenced me; in the first place, the topic is one which has been too little considered in the text-books and too little respected by research workers in neurology; and, in the second place, the bibliography is becoming so complex, and in places so confusing, that I have felt that a connected *résumé* of the work of others, together with an expression of opinion regarding the relative value of the different researches based upon personal studies in this field, might not be unacceptable to those who from want of time or other reasons might find the bibliographic studies burdensome.

One thing is certain: before we can hope for a satisfactory pathology of the ganglion cell, we must, as Nissl states, have before us clearly a sharply defined anatomy of the nerve cells. The establishment of any relations, no matter whether they be structural or functional, so long as they are constant, must always be welcomed. We are too often inclined to undervalue an enthusiasm for facts, especially when these at the first view appear trivial and insignificant, but we have been taught the folly of such depreciation more than once in the progress of anatomical, and especially of histological knowledge.

Iodoform and Ether in the Treatment of Cervical Endometritis.—Doléris (*Bulletin général de thérapeutique*, 1897, No. 11; *Centralblatt für Gynäkologie*, December 11, 1897) recommends the application of an ethereal solution of iodoform to the cervical canal in obstinate cases. His idea is that the ether excites energetic contractions that expel the contents of the infected glands, and then the iodoform exerts its disinfectant action directly on them.

THE RÖNTGEN RAYS IN DIAGNOSTICATING ARTERIOSCLEROSIS.*

By CARL BECK, M. D.,
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The proofs of the immense usefulness of the Röntgen rays in surgery are so overwhelming that to discuss them would be carrying owls to Athens. Their value in internal medicine has not as yet been made so apparent; but there can be no doubt that with the better interpretation of the shadows and the continuous improvement of diagnostic technics, the significance of the rays in the obscurer ailments will be convincing even to the mind of the most skeptical.

A striking example of this may be found in the diagnosis of arteriosclerosis—a diagnosis which is easy on the surfaces of the body, but very difficult in the deeper tissues. According to the text-books on internal medicine, the thickening of the tunica intima can not be recognized if it is confined to a small area or to single small foci. It hardly needs to be emphasized how important it is to know whether in a given case of sclerosis of the radial artery there exist foci in other vessels besides. Nor can it be indifferent what the number of these obstructive foci is, and whether an aorta or a temporalis is concerned. The presence of a large number of foci means a loss of propelling energy in the circulation, which can be compensated only by the increased working power of the left ventricle. The arterial pressure thus becoming higher, hypertrophy of the overworked ventricle will be the most natural consequence. If such foci are recognized at an early stage, proper prophylaxis can accomplish a great deal in preventing secondary disturbances. The prognostic significance of an exact knowledge of the condition of the arteries is also evident.

The Röntgen rays give us a most reliable method of ascertaining the condition of the vessels, and this in nearly every part of the body. A case which I observed recently well illustrates these views.

P. S., a Cuban, sixty-eight years of age, for whose case I am indebted to Dr. D. Cook, suffered from carcinoma mandibulæ, for which (October 10th) I exarticulated half of the inferior maxilla and of the floor of the mouth. There was no reaction to speak of, and the patient was discharged from St. Mark's Hospital, October 31st. Patient is strong and tall, has no alcoholic habits, never had any serious sickness, and suffers from neither palpitation, dyspnœa, nor vertigo. Cough has never been present. The facial and temporal arteries are not thickened, nor do they show any serpentine form. The facial artery, when divided during the operation, did not show anything abnormal. The heart is slightly displaced to the left; the murmur is clear. The urine shows neither sugar nor albumin. Both radial arteries show slight thickening on palpation. To ascertain whether there were any arteriosclerotic signs in the deeper tissues I exposed the patient's forearm, his head, neck, and femoral and aortic regions to the rays. Nowhere did the conspicuously developed plates show any indications of degeneration of any artery except on the forearm, the illustration of which I give on account of its rare distinctness. The forearm is taken in pronation, the palm resting on the photographic plate. The radial artery can be recognized just below the bifurcation of the brachial artery, passing along the radial side of the forearm to the wrist, and winding round the outer side of the carpus. Less conspicuous is the anterior interossea, which, on account of the pronation, appears crossing the radialis in the middle of the forearm; both arteries narrowing and bending out in a baylike form. Particularly interesting is the grading of the shadow according to the degree of the calcification of the artery. The clear demarcation between integument and muscular tissue in this illustration also deserves notice. No trace of the ulnar artery was represented. On the photographic plate the details are shown much more distinctly than on the print.

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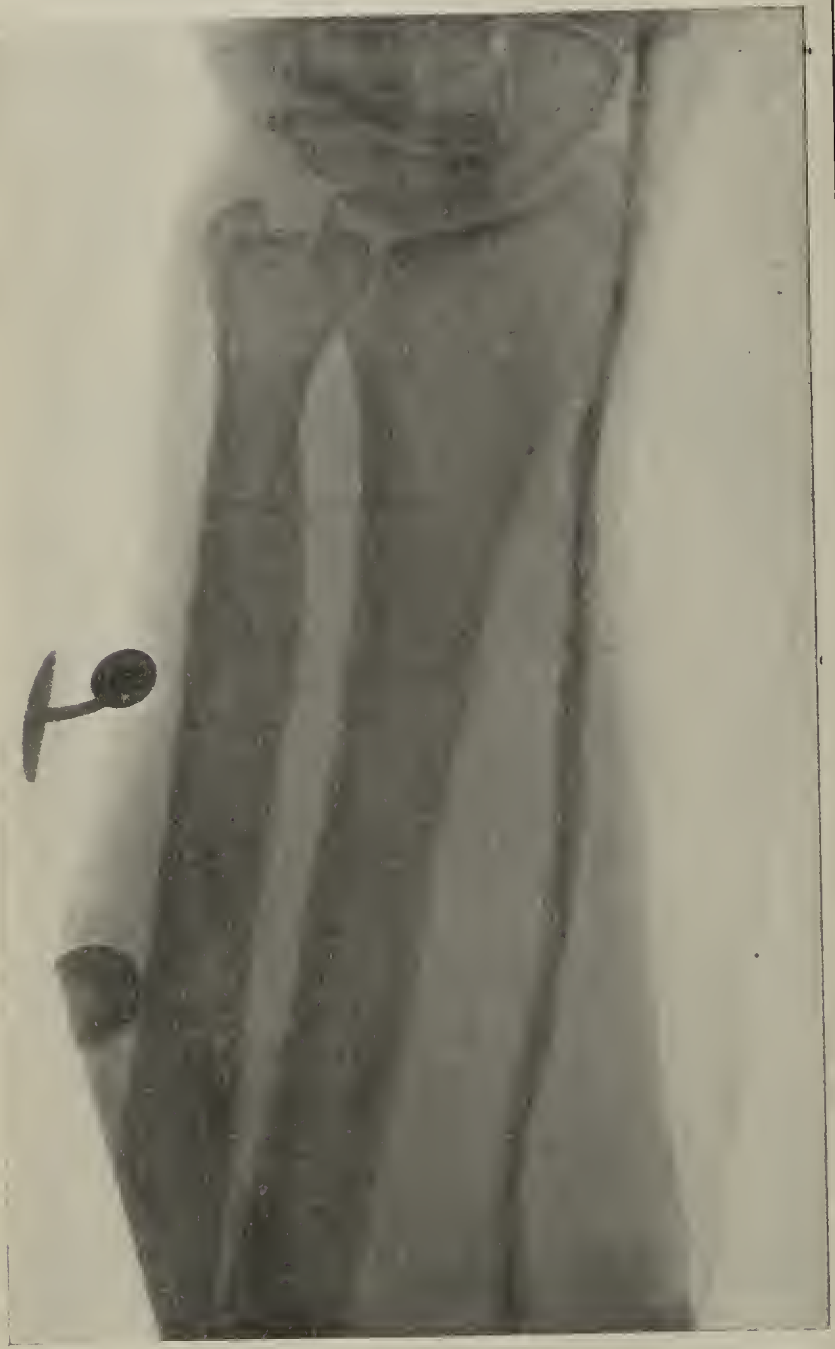
* As will be pointed out later, the stainable substance can be made to disappear almost entirely from the cell body without destruction of the cell.

* Demonstrated before the Society for Medical Progress, November 17, 1897.



From the negative state of the other plates I venture to draw the conclusion that the patient's arteriosclerosis is confined to the radialis and anterior interossea: a limitation which would harmonize with the good general condition and the absence of palpitation, dyspnœa, and vertigo.

HYSTERECTOMY:

IS IT JUSTIFIABLE IN SEPTIC DISEASES OF THE APPENDAGES?*

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Several years ago, following brilliant reports from French surgeons, I gave to this subject a great deal of careful study, watching the literature closely, and also some cases I had an opportunity to observe. I thought then that ere now indiscriminate hysterectomy for tubal and ovarian disease would have been abolished. That this is not so one has only to read medical journals, particularly special journals dealing with gynæcology.

The subject of hysterectomy has recently been quite fully discussed in the Chicago Medical Society, and reported in full in the April number of the *American Gynæcological and Obstetrical Journal.* I speak of this number because I later desire to quote, not literally, however, from an article by Dr. Henrotin read at this time, in which he advocates hysterectomy in this class of cases.

I have taken an opposite position from that of Dr. Henrotin, and have done so from the start. I am more fixed in my opinion now than then, as a result not only of study but also of observation. With many I believe that vaginal hysterectomy is merely a fad. That there are men who are honest in their beliefs that this operation is the proper one I do not doubt, and it will be due to these honest men that the true position and true worth of this method of procedure will ultimately become more firmly fixed. Dr. Henrotin, of whom I have spoken, I may here add, belongs to this latter class.

To quote from Dr. Gill Wiley: "Had the French surgeons been as expert in abdominal surgery as the English and German, I do not think the vaginal method would have been so strenuously urged." To this I will add that had they been as thorough in their work, the necessity for the operation would never have arisen. Their reason for doing extirpation of the uterus when the tubes and ovaries were diseased was that their cases were not cured by the abdominal removal of the appendages alone. As the reason of this, there must have been lack of technique and thoroughness. Their results now are good; their recoveries, when they take place, are, so they say, perfect. Whether or not this is true upon this side of the water we shall see later. At a first glance their reasons seemed most potent; our American surgeons were carried away with them, and, as the results of many are now better than they formerly were, they are loath, of course, to give up the operation.

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* Read before the Tri-State Medical Society of Georgia, Alabama, and Tennessee, at Nashville, Tenn., October 14, 1897.

Let us spend a few moments, as is necessary for the proper understanding of this subject, in a hurried review of the pathology and, what is of equal importance, the ætiology of septic tubal disease. I take it that in the majority of cases—certainly all those of gonorrhœal origin, and many of puerperal origin—the endometrium is primarily affected; furthermore, that the gonococcus and the streptococcus are together the cause of probably ninety to ninety-five per cent. of inflammatory tubal disease. Where the infection does not take place primarily in the uterus, and through it to the tubes, it passes by way of the lymphatics to the tubes, either from the uterus or from the vagina. This is true, however, only of puerperal cases due to streptococcus infection, as they most all are. As we know, the gonococcus does not invade the lymphatics; consequently infection can not take place in this way, but passes, as said, from the mucous membrane of the uterus to the tubes. Gonorrhœa in the adult woman exists as either a corporeal or a cervical endometritis, provided it gets past the urethra and the vulva with its glands. It infests the mucous membrane only, never invading the muscular structures of the uterus. Those cells which it infests die and are exfoliated, be they either young or old. It may penetrate into the deeper glandular structures and here lie dormant, as it were, ready to again take on its active processes, or may continue in an exceedingly mild way. The same thing is true in the tubes, so far as the processes produced by the organism itself are concerned. The mucous membrane of the tubes is one with the uterus; its structure is nearly the same. The difference in the processes in the tubes and in the uterus is that in the uterus purulent secretion escapes; in the tubes, as a result of swelling of the mucous membrane, there is inversion of the fimbriæ, followed by adhesions, and, as a result of swelling of the mucous membrane at the uterine end, occlusion, causing an abscess sac. The organisms soon die out, leaving the pus sterile. With streptococcus infection, when it takes place by way of the uterus, the same holds true of the mucous membrane, but with the addition that the process is a more violent one, that there may also be ulceration of the mucous membrane, extending down to or into the muscular structures. There may even be abscesses in the muscularis. These uterine abscesses, if we may term them such, are usually multiple, and are found in some of the cases of puerperal sepsis. If abscess formation in the uterus does not occur, the course followed by the organism is similar to that resulting from the gonococcus. In that class of cases resulting from vaginal infection only, the infection of the tubes being through the lymphatics, the uterus may escape entirely, and be and remain in a perfectly healthy and normal condition so far as any septic process is concerned. To remember this is essential, and it must be borne in mind in determining whether hysterectomy should be done or not, for I will say that there are some few cases which may require it. Further, this pathology must be borne in mind to enable us, when we operate by the abdominal route, to leave the uterus and have perfect cures.

Now let us consider some of the reasons for doing hysterectomy: One great argument, and really the only one for some time, was that the uterus, after the ovaries and appendages were removed, was a useless organ. Is it? I do not believe so. Removing the uterus *in toto* destroys the pelvic diaphragm; consequently, we find prolapsus. The uterus is the keystone which holds the entire arch, and with its removal the arch is bound to give. Quoting from the conclusions arrived at by Dr. Henrotin in the article mentioned, we find he says this: "When in operating by the abdominal method the cervix is found perfectly healthy, it is advisable to make a supravaginal amputation and to leave the cervix, putting in stay stitches, as recommended by Baldy, to prevent displacement of pelvic fascia." The questions of why we should leave in the cervix in this manner in abdominal hysterectomy, and of why he advocates removal *in toto* of the uterus by vaginal hysterectomy in cases which can be done through the abdomen, are most pertinent. In another part of his article he says, "When the conditions render the removal of the cervix imperative, the force of this objection" (that is, destroying the equilibrium of the pelvic floor) * "is materially lessened by the severity of the disease." I agree with Dr. Henrotin fully, but does the condition in a septic pelvic disease ever render the removal of the cervix imperative? The question answers itself. They ask, Don't you remove the cervix in cases of cancer? Certainly we do, but this is one of the *imperative conditions* of which the doctor speaks. I will say *en passant* that I believe the time will come when vaginal hysterectomy for cancer even will be superseded by abdominal hysterectomy. The reasons for this I do not desire to enter into in this paper. So you will find that the uterus is not a useless organ considered only from this one standpoint.

There are other organs which become just as useless by removal of the ovaries and tubes, and we might ask, Why not remove them? I refer to the mammary glands. They are necessary only so long as the woman can give birth to a child, and they are certainly just as liable to cancer in women who have borne children as the uterus is. Such a question seems absurd, but they have absolutely no use except for cosmetic effect, to play a part in stimulating the male; but the presence of the uterus also plays a part—perhaps only mental—in the gratification of that stimulation.

Again, there is more logic in removing an appendix which is undiseased, for it certainly is a most useless and dangerous organ, and I doubt not but it can be just as easily removed through the vagina as many fibroid tumors can be.

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* Parenthesis mine.—L. F.

Liability to Future Disease.—This is another argument of the universal hysterectomist. I deny that the cervix, lacerated or unlacerated, is more liable to malignant degeneration after the tubes and ovaries are removed, that it is more liable to tuberculous disease, or that the uterus is more liable to gonorrhœal infection than it was before. In fact, it is less liable to cancer than previously. A recurrence of gonorrhœa may occur; it may occur in those cases where it has been cured before removal of the appendages just as well. Why not, then, do hysterectomy as a prophylactic for cancer in all cases of laceration of the cervix or a prophylactic for future gonorrhœal infection in all cured cases? These are a few question that I desire to ask you, gentlemen. These uteri are really less liable, for, should these lacerations or the gonorrhœal endometritis be properly treated either before or after the time of removing the tubes and ovaries, the same changes will take place that do at the climacteric—namely, atrophy—and how rare is cancer in the healthy uterus after this time, and how improbable is gonorrhœa in the atrophied uterus of old age!

Another argument is that the organ is so diseased as to be incurable. How do they know this? I have seen, like other members of this society, uteri removed which were said to be diseased, in which it was impossible to find aught of pathological change macroscopically, and, I venture to say, microscopically. If these diseased uteri, with lacerations, septic endometritis, etc., are so incurable, pray why do they attempt to cure when there are normal appendages? Why do they not at once remove the generative organs in cases of puerperal sepsis or of chronic septic metritis, which, we know, is so apt to infect the tubes, for in some of these cases disease of the appendages already exists, though not demonstrable at the time by bimanual or other examination, and this slight infection may even take on an active process or may result in extensive disease of the appendages later without a recurrent affection of the uterus?

Convalescence.—In the cases in which I have operated and recovery has taken place, though my number may not be so large as some (still sufficient, I think, to entitle me to an opinion), convalescence has with few exceptions been so good that I have not found it necessary to change my method of operating to secure a better one. My mortality in pus-tube cases has also not been great. I have not estimated it, but believe that five per cent. will cover it. Some of these patients, it is true, have had stitch abscesses, a few have had a very stormy convalescence; but, taking them all together, I am so well pleased that, as I say, I have found no necessity to do vaginal hysterectomy on account of it. That convalescence from vaginal hysterectomy is any shorter, that the patient should—mark you, I do not say can—get up and walk about any earlier than after abdominal section, I do not believe; and careful surgeons, those who desire the best ultimate results, I am sure will agree with me.

Mortality.—Careful study of great numbers of cases reported shows that the mortality is not any better than it is when the organ is left. That the operation is less dangerous I do not believe, but, on the other hand, I am of the opinion that, taking into consideration the complications which are prone to occur in operating for septic pelvic disease, tubal in character, where quite extensive areas of adhesions must be separated, the danger is greater. I know of one case where the intestines were caught in the hysterectomy clamp, and perforation and death resulted. I know of another in which the clamp slipped; hæmorrhage occurred, requiring opening of the abdomen; result, death. And these in not a large series of cases. Had these operations been done from above, these two women would undoubtedly have been living to-day.

Drainage.—Drainage, we must admit, is of course better when the uterus is removed, and possibly more perfect; but right here the question arises, In how many cases is drainage absolutely necessary? We are well aware that the pus in the majority of pyosalpinx cases has lost its virulence, due to death of the organisms from accumulation of antitoxines in the pus which they have produced. Really there are, then, very few cases which require drainage, and certainly these few do not require removal of the uterus to accomplish it. By making an incision in the posterior fornix, we can drain just as easily, just as efficiently as after removal of the uterus.

Now as to the diminution of the nervous phenomena. I do not believe that they are in any degree lessened, for we have not only those organs removed whose removal causes these phenomena, but we have another important organ, the uterus. I am sure that in some hysterectomies which I have done for other forms of disease these phenomena have equaled any which I have seen following removal of the appendages.

Why do I, then, adhere to my method of operating? Simply because I believe that in the abdominal operation without removal of the uterus there is not only less shock, there is not only less danger from hæmorrhage, but less danger from septic infection, a mortality which is also probably less, an operation more surgical, and results equally as good as with the organ removed. It is a principle of surgery that no tissues should be sacrificed unnecessarily; I act upon this principle. With the uterus removed, there is a relation between the rectum and the bladder which is altered, and from which there must necessarily arise some symptoms. Operating from below, it is absolutely impossible to see what one is doing unless the uterus is removed; consequently, generative organs are sacrificed which might have been saved had the suprapubic method been selected. The French school, as you know, advocates bisecting the uterus previous to its removal, particularly if the organ is enlarged, and if there are inflammatory changes in and about the tubes sufficient to justify their removal. With the organ bisected, or with the hysterectomy begun and carried out to a certain degree, it is impossible to abandon the operation without complete removal, even should we discover that the tubes might have been saved upon either one or both sides. I have recently had this illustrated to me in a most impressive manner. A young lady who had been complaining for quite a while was referred to me, and I found that she had inflammatory changes, septic in character, upon both sides. Owing to her position, I wanted very much, as she did also, to save one or both of the appendages. I had two most capable gentlemen see her in consultation, who agreed fully in the diagnosis and advised what I had—viz., an abdominal section for removal of the appendages. Laparotomy was done, the tubes were found imbedded in dense adhesions and thickened, the broad ligaments were infiltrated, the intestines were adherent over the roof of the pelvis, the uterus was retroflexed and fixed—in fact, it would have been an ideal case, as shown by examination previous to the operation and at the time thereof, for a total ablation. I did not even remove the appendages, and, although the fimbriæ were adherent, they were separated, a probe was passed into each tube, and each one was cleansed of its contents, serous in one tube and slightly purulent in the other. Barring a stitch abscess, she made a perfect recovery, and now, three months after the operation, she has menstruated normally on two occasions; something that she never did before, there having been always more or less pain, which is now totally absent. She is happy, and has increased in flesh. In an examination within the last week the uterus was found movable, slightly tender, however, the induration in each side having almost completely disappeared. I have another case very much similar to this in which a similar operation was done, and the patient has since given birth to a child, the organs now being perfectly healthy. Another, from whom one tube and ovary were removed, has also given birth to a child. None of these patients would have escaped, I am sure, without a total extirpation had they been operated upon by one believing that the uterus should be sacrificed in these cases of septic appendage disease.

I think the man who separates adhesions through the abdomen under the watchful care of the eye, when it is necessary, will meet with far fewer cases of torn or injured intestines than he who operates blindly through the vagina. Again, through the abdomen all adhesions can be reached and carefully dealt with. If there is bleeding, serious in character, from the seat of these adhesions, it also can be dealt with. No adhesions are left behind. I have recently seen it stated in an article that adhesions which are left behind after these vaginal operations will disappear. I can not understand the explanation therefor, and I venture the statement, based upon actual pathological work, that organized adhesions are never absorbed. They can not disappear without breaking down of the fibrous tissue of which they are composed, and I think the consequences therefrom would be quite a serious matter in the peritoneal cavity. Notwithstanding the fact of the perfect drainage which is procured through the pelvis, there is an element of danger which must not be overlooked—viz., sloughing of the pedicle. This may lead to very serious results; it may cause the patient to lose her life; it may lead to the formation of abscesses, or to the most virulent suppurative peritonitis. The pedicle which we have after applying clamps, or after the use of the silk ligature, which latter is left to slough away, does not become adherent to the surrounding structures, as intra-abdominal stumps do. So long as the silk ligature remains it is a constant menace. With the clamp there is an equal danger.

The technics of the operation is not nearly so surgical, but this we could overlook were results superior to those derived by past methods. A thorough, carefully trained surgeon will remove by cœliotomy all diseased structures, unless it is absolutely impossible to do so, and the cases in which this is impossible are far fewer in number than in the vaginal operation. Operating through the vagina, there are times when the ovaries or a portion of the tubes are left behind, which would not have been necessary did the operator not believe the uterus should be removed. They say ovaries or healthy tubes which do remain will give no trouble; that it may be desirable at times to leave a healthy ovary to prevent nervous phenomena. Why a tube should remain healthy and the uterus be removed for disease of the opposite tube I can not understand. Certainly ovaries which are left behind are liable to cyst formation, and, with the sloughing going on as a result of the clamp, you may even have abscess formations about these structures from lymphatic infection. Within the last two months a case has come under my observation—one which has been reported as cured by vaginal operation with hysterectomy—in which there was found upon examination a tumor upon one side. Abdominal section revealed an enlarged cystic tube and a diseased ovary, which were removed by this secondary operation. I operated upon a patient eighteen months ago, removing the appendages, which contained pus, and opening up a pelvic abscess and draining it through the vagina; and this patient had been previously operated upon through the vagina. From this it seems that the abdominal operators are not the only ones who have disagreeable sequelæ following their operations.

There is the sentimental side to the subject which I think it unnecessary to enter into. It has been very fully discussed by Dr. Martin, of Chicago.

In conclusion, I wish to say that I do not oppose vaginal hysterectomy for cancer, or where the uterus—that is, the deep structures of the organ—is the seat of such extensive disease that recovery would be impossible, but, as I have said, I think this occurs in the rarest cases, and those only of puerperal origin. There are also some conditions which may be best operated upon through the vagina, though in these removal of the uterus is not necessary.

THE BASIS OF ONE TWENTIETH:
A SIMPLE METHOD OF DOSE DETERMINATION FOR CHILDREN.

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There are two rules—namely, that of Dr. Young and that of Dr. R. O. Cowling—in general use with physicians and dispensers in prescription-writing for children. Both are open to at least two very great objections: First, there is the fact that the dose determined in accordance with each for young children is too large for many potent and frequently employed remedies, such as opium and its derivatives, gelsemium, coal-tar antipyretics, and many others. This obstacle is especially apt to present itself in prescribing active principles, the doses of which for even adults are very small. Since these are from year to year isolated in increasing numbers and greater purity, this error in these rules must occur more and more frequently. Second, there is the difficulty in *mentally* applying either rule with accuracy and ease to both the metric and the apothecaries' system.

To meet these objections the writer has devised a simple method of determining dose, and to explain the same is the purpose of this paper. The system in question—namely, the basis of one twentieth—is so very direct and plain that it seems almost improbable that he is the first to have come upon it. To the best of his knowledge and belief, however, and after careful research, it appears possibly true that no one else has ever advanced it before.

All rules for assigning dose are useless if one adheres to the premise that in application they are fixed and inflexible. Under any circumstances the selection of a dose depends upon many factors, which, taken together, form our judgment and determine, finally or tentatively, the quantity of a drug to be given. Perhaps a brief categorical statement of some of the chief elements acting in all cases will not be out of place at this point of the discussion.

A. With reference to the patient, we have to consider general condition, nutrition, size, weight, development, sex, and habit. Each of these elements has its own distinct influence with respect to all therapeutic agents, while idiosyncrasy, susceptibility, and resistance have more definite reference to one drug or class of drugs.

B. Concerning the drug itself, we must constantly remember whether it is a fluid or a solid preparation, an alkaloid, a glucoside, or any other active principle.

C. With regard to the method of administration, the physician must consider the avenues—stomach, rectum, cellular tissue, skin, etc.—primarily, and secondarily the influence the disease is having upon each medium, and at the same time the degree of therapeutic activity sought.

D. With reference to the disease, its type, form, and severity of the attack must be taken into account in fixing upon the dose. Further, one must be concerned with whether or not the disease brings about tolerance.

Although all these considerations, rapidly reviewed in the mind of the prescriber, determine dose, yet all of them must rest upon the basis of age until adult life is reached. This is an axiom, because development, weight, size, nutrition, must be estimated in terms of the normal for a given age. In like manner the physiological action of drugs and the course and results of disease vary with age from infancy to adult life. That period during which most doubt and difficulty are present in the matter of dose determination is from infancy to twenty years, and out of this score of years the first ten are still more troublesome and important, for reasons too familiar and obvious to need mention in an article of this kind.

In addition to indicating the proper dose for any age within the province of a given system for assigning dose, at least two other important features must be presented by it—first, greatest possible readiness in mathematical application, and, second, uniform increase in dose from year to year.

The writer's method, the basis of one twentieth, is the following:

A. Consider a subject twenty years of age, all other things being equal, to be able to bear full therapeutic dose.

B. The proportionate dose for any age, twenty years or less, is found by taking one twentieth of the full therapeutic dose and multiplying the result by the age, in integral years, or in years and fractions of years, or in fractions of years alone. Hence is obtained the formula $x = \frac{D}{20} \times A$, in which $x =$ dose to be arrived at, $A =$ age as expressed above, $D =$ full therapeutic dose.

It is in order to rehearse at this point the other two rules already mentioned. Dr. Young's system is: "The proportionate dose is found by dividing age by age, plus twelve." This makes its formula $x = \frac{A}{A + 12} \times D$. Dr. R. O. Cowling's plan is: "The proportionate dose is represented by the number of the following birthday divided by twenty-four." This gives the algebraic equation $x = \frac{A + 1}{24} \times D$.

There has just been published Professor Brunton's new work, *Lectures on the Action of Medicines,* in which I have found a new principle of dealing with the matter of determining dose for children. His method is closely analogous to that of Dr. Cowling, though not necessarily suggested by it. It may be expressed as follows: "The proportionate dose is indicated by the number of the following birthday divided by twenty-five." This, reduced to the form of an algebraic expression, gives us $x = \frac{A+1}{25} \times D$. In all of the foregoing formulæ the quantities are the same as in that for the basis of one twentieth—namely, $x =$ dose to be determined, $A =$ age, $D =$ full therapeutic dose.

For the sake of completeness, I will mention two other devices for settling the question which I have come upon during my researches in this field—namely, the rule of Gabius and that of Dr. Clark. The method of Gabius is of interest chiefly from a historical standpoint. It consists of a table of fixed fractions as guides to the doses for the various ages within its scope, and is too lengthy to be memorized, and hence too cumbersome to serve in practice either physician or pharmacist. It is now obsolete. Dr. Young's rule is apparently based upon it—that is, aims to reduce it to the form of an algebraic equation. Dr. Clark originated a system based upon the weight of the patient. He claims that the proportionate dose is represented by a fraction whose numerator is the person's weight and denominator is one hundred and fifty pounds, arbitrarily taken as the standard of weight for an adult. This method is not without ingenuity and interest, but in practice is rarely or never used.

I shall consider and compare only four rules—namely, Dr. Young's, Dr. Cowling's, Professor Brunton's, and the basis of one twentieth—from four standpoints: First, their mathematical adaptability to the apothecaries' system; second, their mathematical relation to the metric system; third, the increase in dose from year to year indicated by each; fourth, the relation of the doses for any age under the other three plans *in terms of the dose shown by the basis of one twentieth*—that is to say, I shall represent the dose according to the new system as unity, and then demonstrate the ratio which the doses according to the other three bear to that for any age.

First with regard to the apothecaries' system, some of the advantages of the basis of one twentieth are at once apparent. There is no measure of this table which can not readily be divided by twenty, *accurately* and *mentally,* giving the result in even integers, or, if a fraction enter into the quotient, it must always be a decimal of but *one* place. A glance at the tables of fluid and solid measure will prove this point. Therefore in application the plan of the writer is entirely direct and simple, the computation being *accurate* and *mental* in all cases. Moreover, the quantities in the final calculation of the prescription are always integers, or integers and decimal fractions of five tenths; or, if fractional, decimals which are always even and always with *five* as their last digit, except when two is a prime factor of the dividend. In such cases the last digit may be any figure—for instance, one twentieth of gr. $\frac{1}{10}$ is gr. $\frac{1}{200}$ or 0.005, of gr. $\frac{2}{5}$ is gr. $\frac{1}{50}$, or 0.02. These simple factors multiplied by the age of the patient give results which in their turn are obtained always *accurately,* and, in general, *mentally* also. As examples of the above points we have one twentieth of an ounce is four tenths (0.4) of a drachm; one twentieth of a drachm is three grains; of a drachm and a half is four and a half grains (4.5); of gr. $\frac{1}{4}$ is gr. 0.0125; of gr. ss. is gr. 0.025; of gr. $\frac{3}{4}$ is gr. 0.0375; of gr. $\frac{8}{10}$ is gr. 0.04, and so on *ad libitum.*

Turning now to the other three rules, I beg to point out that in none is ease of mathematical application so fully subserved, as only a little thought will show. The following table has been prepared in order to illustrate some of the awkward fractions obtained under the method of Dr. Young, that of Dr. Cowling, and that of Professor Brunton, and in order to compare the same with the fractions for the corresponding years obtained on the basis of one twentieth.

TABLE I.—*Showing Fractions of the full Therapeutic Dose for each Year, from One to Twenty, under the Four Rules. For the sake of brevity, no computations for ages less than one year have been made.*

AGE OF PATIENT.	Dr. Young's rule.	Dr. Cowling's rule.	Dr. Brunton's rule.	Basis of one twentieth.
1	$\frac{1}{13}$	$\frac{2}{24}$	$\frac{2}{25}$	$\frac{1}{20}$
2	$\frac{2}{14}$	$\frac{3}{24}$	$\frac{3}{25}$	$\frac{2}{20}$ *
3	$\frac{3}{15}$	$\frac{4}{24}$	$\frac{4}{25}$	$\frac{3}{20}$
4	$\frac{4}{16}$	$\frac{5}{24}$	$\frac{5}{25}$	$\frac{4}{20}$
5	$\frac{5}{17}$	$\frac{6}{24}$	$\frac{6}{25}$	$\frac{5}{20}$
6	$\frac{6}{18}$	$\frac{7}{24}$	$\frac{7}{25}$	$\frac{6}{20}$
7	$\frac{7}{19}$	$\frac{8}{24}$	$\frac{8}{25}$	$\frac{7}{20}$
8	$\frac{8}{20}$	$\frac{9}{24}$	$\frac{9}{25}$	$\frac{8}{20}$
9	$\frac{9}{21}$	$\frac{10}{24}$	$\frac{10}{25}$	$\frac{9}{20}$
10	$\frac{10}{22}$	$\frac{11}{24}$	$\frac{11}{25}$	$\frac{10}{20}$
11	$\frac{11}{23}$	$\frac{12}{24}$	$\frac{12}{25}$	$\frac{11}{20}$
12	$\frac{12}{24}$	$\frac{13}{24}$	$\frac{13}{25}$	$\frac{12}{20}$
13	$\frac{13}{25}$	$\frac{14}{24}$	$\frac{14}{25}$	$\frac{13}{20}$
14	$\frac{14}{26}$	$\frac{15}{24}$	$\frac{15}{25}$	$\frac{14}{20}$
15	$\frac{15}{27}$	$\frac{16}{24}$	$\frac{16}{25}$	$\frac{15}{20}$
16	$\frac{16}{28}$	$\frac{17}{24}$	$\frac{17}{25}$	$\frac{16}{20}$
17	$\frac{17}{29}$	$\frac{18}{24}$	$\frac{18}{25}$	$\frac{17}{20}$
18	$\frac{18}{30}$	$\frac{19}{24}$	$\frac{19}{25}$	$\frac{18}{20}$
19	$\frac{19}{31}$	$\frac{20}{24}$	$\frac{20}{25}$	$\frac{19}{20}$
20	$\frac{20}{32}$	$\frac{21}{24}$	$\frac{21}{25}$	$\frac{20}{20}$

It is obvious that most of these awkward fractions can be "estimated," so that no great difficulty will be met in handling them. In such estimates, however, personal equation plays a large part, and this is not mathematical. I am arguing for a fixed mathematical, and hence a scientific, basis for this matter so far as this is practicable. Of the four rules, Dr. Young's, it will be seen, presents the least advantageous fractions; Dr. Cowling's has the convenience of a constant denomi-

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* The fact that twenty is so very readily contained into the factors of the apothecaries' system renders it more desirable *not* to reduce any of the fractions resulting in the basis of one twentieth. For more emphatic comparison the fractions of the other three methods are *not* reduced also.

nator; but twenty-four is much less desirable than twenty as a factor, because it is not contained into the quantities of the apothecaries' system so readily. Furthermore, when fractions do occur, they can not be so easily determined and handled as those inherent in the basis of one twentieth. Let it here be carefully noted that dividing by twenty is the same as multiplying by five hundredths (0.05), which fact alone greatly simplifies matters. As for the fractions of Dr. Brunton's rule, we shall have still more difficulty than in those of Dr. Cowling's principle, since only those for the fourth, ninth, fourteenth, and nineteenth years can be reduced, and since twenty-five is *not* a factor in the apothecaries' measures. Nevertheless, multiplying by four one-hundredths (0.04) is the same as dividing by twenty-five; therefore, all such obstacles are at once overcome, and the mathematical use of this method is made just as *accurate* and as easy *mentally* as is the basis of one twentieth.

I believe, therefore, that for such as prefer the apothecaries' system to the metric system the principle of the writer possesses unqualified advantages over the rule of Dr. Young and that of Dr. Cowling, and is superior to the plan of Dr. Brunton in that twenty is a prime factor of the measures of the apothecaries' table.

My second standpoint for discussing these four rules is that of their mathematical relation to the metric system. I shall endeavor to show that in this case the advantages and conveniences previously enumerated apply even more emphatically than in the case of the apothecaries' system in favor of the basis of one twentieth. The changing denominator in the fractions of Dr. Young's plan, together with the frequent occurrence of fractions not mentally manageable, makes it quite inapplicable to the metric system. Dr. Cowling's method is very little or no better, because the denominator twenty-four, though constant, is *not on the basis of ten*, and hence departs from the simple ratio of decimal factors, which is the aim and spirit of the metric system. The invariable twenty-five, as denominator in the fractions of Professor Brunton's formula, is a distinct advance in the right direction over the other two, because it is on the *basis of one hundred*—that is, for any metric-system operation we multiply by four and divide by one hundred to obtain the twenty-fifth part. Turning now to the basis of one twentieth, the denominator twenty is *constant on the basis of ten, and therefore in absolute mathematical accord with the metric unit ten;* for we may divide by ten and then by two, or *vice versa*, as well as multiply by five and divide by one hundred to take a twentieth part of any metric-system quantity. Moreover, the results are always integers, or, if fractions appear, the decimal is always even, always of few places, and in most cases with *five* as its last digit—*i. e.*, just *half* a unit in the decimal place next preceding. This is certainly an improvement upon even Professor Brunton's law.

I have calculated the following table to show these points, carrying the operations to only two decimal places, because they are sufficient for illustration, and two digits are usually involved alike in the formula of Professor Brunton and in that of the writer.

TABLE II.—*Showing the Application of the Four Bases to the Metric System, taking One Gramme as the full Therapeutic Dose for an Adult.*

AGE OF PATIENT.	Dr. Young's rule.	Dr. Cowling's rule.	Dr. Brunton's rule.	Basis of one twentieth.
1	·07 +	·08 +	·08	·05
2	·14 +	·12 +	·12	·10
3	·20	·16 +	·16	·15
4	·25	·20 +	·20	·20
5	·29 +	·25	·24	·25
6	·33 +	·29 +	·28	·30
7	·36 +	·33 +	·32	·35
8	·40	·37 +	·36	·40
9	·42 +	·41 +	·40	·45
10	·45 +	·45 +	·44	·50
11	·47 +	·50	·48	·55
12	·50	·54 +	·52	·60
13	·52	·58 +	·56	·65
14	·53 +	·62 +	·60	·70
15	·55 +	·66 +	·64	·75
16	·57 +	·70 +	·68	·80
17	·58 +	·75	·72	·85
18	·60	·79 +	·76	·90
19	·61 +	·83 +	·80	·95
20	·62 +	·87 +	·84	1·00

If the reader will stop to review the above table very carefully, it will be seen that at one year the dose, according to the basis of one twentieth, is less than those indicated by the other three. At five and six years all four are more nearly alike. Again at the tenth year the doses prescribed by Dr. Young's, Dr. Cowling's, and Dr. Brunton's method are similar, and somewhat less than just half the full therapeutic amount as given by the new plan. For a patient of fifteen years, Dr. Young's device fixes the dose at a little more than half, Dr. Cowling's and Professor Brunton's formula alike give about two thirds, and the basis of the writer works out to exactly three fourths of the full therapeutic quantity. Finally, when the subject reaches adult life, at twenty, Dr. Young's rule will give him less than two thirds, Dr. Cowling's system less than nine tenths, Dr. Brunton's plan a little more than eight tenths, in contrast to exactly full therapeutic dose as assigned by the basis of one twentieth. It appears self-evident that these points, and others which might be mentioned in the above table, all show distinctive features in the new formula, the basis of one twentieth, which are worth taking into consideration in actual practice. Another point of decimal relation, present only in the principle of the writer, is the fixed alternation between *zero* and *five* as the last digit in the fractions.

Naturally, therefore, the writer trusts that those who are already accustomed to the metric system, and use it in preference to the apothecaries' system, will find the basis of one twentieth more adaptable to it than either the rule of Dr. Young or that of Dr. Cowling can be, and superior, in most respects, to even the new method of Professor Brunton.

The third heading under which, as stated, I shall compare these four methods is that of dose increase from year to year. Here a moment's consideration will show another desirable element in the basis of one twentieth—namely, that the yearly increase is constant and invariable. This is a matter very essential to the accurate and scientific observation of the action of drugs—in fact, quite as necessary thereto as constancy and invariableness in the strength of preparation used. The whole profession knows the satisfaction inherent in these when obtained, and is aware of the present efforts of chemists to secure them in increasing numbers of drugs. Why not be scientific enough to use fixed progression in dose to the last degree of practicability? In this manner there will be as many elements as possible, exact and unchanging, in the study of the action of drugs. We shall therefore advance at least somewhat in scientific precision. Believing that the comparison of these four systems in this matter of dose-increase will be interesting and instructive, I have prepared the following table, complete from one to twenty years:

Table III.—*Showing Absolute Increase in Dose for One Year over that of the Year Next Preceding, Decimally Considered to Three Places.*

Age of Patient.	Dr. Young's rule.	Dr. Cowling's rule.	Dr. Brunton's rule.	Basis of one twentieth.
1	($\frac{1}{13}$ = ·0769+)	For each year accurately ·0425	For each year accurately ·04	For each year accurately ·05
2	·066+			
3	·057+			
4	·05			
5	·044+			
6	·039+			
7	·035+			
8	·032+			
9	·028+			
10	·027+			
11	·023+			
12	·022+			
13	·020+			
14	·018+			
15	·017+			
16	·016+			
17	·015+			
18	·014+			
19	·013+			
20	·012+			

The peculiar irregularities in the dose-increase according to Dr. Young's plan is very striking. While it is not a point of vital importance, it will be admitted that, as the foundation of careful observation, a system in which the amount of increment so varies is hardly scientific or satisfactory. On the other hand, the increase determined by the other three formulæ is fixed and constant, but that of the basis of one twentieth has the advantage of better decimal ratio, since it is always half the unit in the next preceding decimal place.

The question ought at once to arise, "What is the actual relation of the doses, according to each plan, in terms of the dose assigned by any one of them—for example, by the basis of one twentieth?" This brings me to the last of my stated points for reviewing the four systems. The table next following is designed to show this also to two decimal places.

It will be seen that for very early infancy and the first three or four years of life the doses on the basis of one twentieth are considerably smaller than are those resulting from the other three methods. Probably the majority of practitioners will admit that this is a very great advantage, because those who have had long experience believe and teach *that for young children too little medicine is better than too much.* Furthermore, let it be particularly noted that the doses by Dr. Young's, Dr. R. O. Cowling's, and Dr. Brunton's rule are for the first ten years relatively far larger than are those for the second ten years of life. This is true, notwithstanding the fact that at fifteen years most patients are physically adults. It is in pronounced contrast to the fixed and proper balance between the doses of the first and second decades, as shown by the basis of one twentieth. It seems, therefore, that on this account the three other methods are misleading, because they do not indicate a fitting dose for each year intended to be within their province. In fact, these points are those of the greatest material advantage of the writer's rule over Professor Brunton's, because many of the others may be dismissed as hardly essential, or at any rate as less important.

Table IV.—*Showing the Relations of the Doses by Years, Decimally Considered, in Terms of the Doses on the Basis of One Twentieth, which are taken as Unity.*

Age of Patient.	Dr. Young's rule.	Dr. Cowling's rule.	Dr. Brunton's rule.	Basis of one twentieth.
1	1·5+	1·6+	1·60	1
2	1·4+	1·2+	1·20	1
3	1·3+	1·06+	1·06	1
4	1·25	1·04+	1·00	1
5	1·1+	1·00	·96	1
6	1·1+	·96+	·93+	1
7	1·02+	·94+	·91+	1
8	1·00	·94+	·90	1
9	·95+	·92+	·88+	1
10	·90+	·91+	·88	1
11	·87+	·90+	·87+	1
12	·83+	·90+	·86+	1
13	·80+	·89+	·86+	1
14	·78+	·89+	·85+	1
15	·74+	·88+	·85+	1
16	·71+	·88+	·85	1
17	·68+	·88+	·84+	1
18	·66+	·87+	·84+	1
19	·64+	·87+	·84+	1
20	·62+	·87+	·84	1

The propositions with which I began have, I trust, been established—namely, that any rule is of service only as a basis from which we start to settle the amount of dose, and that any rule in order to be of service for such purposes must embody at least *three* important features: First, entire fitness and safety of the tentative dose of any drug for any age under most circumstances; second, accuracy and convenience of mathematical application; third, constancy of dose-increase from year to year.

I hope that the striking presence of all three of these undeniably valuable and desirable elements in the basis of one twentieth, together with its ready adaptability to both the apothecaries' system and the metric system, may render it acceptable to the prescriber and the dispenser. Certainly, it seems to possess advantages over the older methods—those of Gabius, Clark, Young, and Cowling—and perhaps will in the long run prove itself more convenient than the principle so recently enunciated by Professor Brunton.

FRACTURE OF THE CARTILAGES OF THE EXTERNAL EAR.

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INJURIES of the cartilaginous auricle as the result of severe traumatism involving the external ear are of comparatively common occurrence, especially in conjunction with lacerated and contused wounds. These injuries result in many ways, the most frequent being a blow on the auricle, and at the same time other adjacent tissues are injured. Wounds confined exclusively to the external ear are not so frequent, while fracture of the cartilages forming the auricle is comparatively rare, especially if there is no injury to other parts.

The following case is reported as presenting two features of especial interest: first, fracture of the cartilages of the auricle without noticeable injury to the other tissues; and, secondly, complete healing in a short time without any untoward symptoms:

Mrs. M. M., aged forty-one years, a weaver by occupation, was struck on the left auricle by a large shuttle flying loose from a loom. At the time of the accident she was stunned for a short time, but not rendered unconscious. In a few minutes intense, sharp pain of the injured side of the head was complained of, which, however, ceased a few hours afterward, but was replaced by diminution of hearing and a roaring sound in the affected ear. One week after the accident she came to the ear clinic of the Union Mission Hospital complaining only of the impaired hearing and tinnitus. Examination showed a slight contusion, of about the size of a five-cent piece, situated on the posterior middle portion of the auricle; this was merely superficial, not extending to the deeper tissues, and much resembled a burn of the first degree. There was no pain or tenderness of any kind, but on palpating the external ear distinct crepitus was elicited, and it was found that the cartilages were fractured transversely, the line of separation being a quarter of an inch above a line drawn through the external auditory meatus, and separating the cartilages into two distinct segments. On holding a strong light behind the ear and viewing it from the anterior aspect the line of fracture could be readily seen. No evidences of inflammatory action were present, and except for the line of fracture, as felt by palpation and seen by transillumination, the auricle appeared perfectly normal.

A feature of additional interest was the production of partial deafness and tinnitus by the blow of the shuttle. On examination the membrana tympani was seen to be very thin, opaque, and retracted. This was evidently of long standing, as sclerosis of the middle ear was well marked. No objective signs of traumatism of the middle ear were observed, but it was evident that from the shock of the blow transmitted to the middle ear irregular vibrations of the intrinsic muscles (*i. e.*, stapedius and tensor tympani) were produced, with jamming of the ossicular chain, rendering active those symptoms the cause of which, being already present, were made manifest by the concussion exerted on the aural region. The case was not again seen for two weeks, and at that time crepitus was absent, but the line of fracture was marked by a slight ridge of newly formed cartilage extending along its entire length. At no time had any evidence of damage to the auricle been perceptible to the patient. The impaired hearing and tinnitus remained the same as when the case was first seen.

From the position and structure of the auricle it necessarily requires considerable force to fracture the cartilage, but as a result of age in many individuals an excess of calcium salts is deposited in the cartilage and it is rendered less resistant to traumatisms. This is what occurred in this case, as the auricle was hard and almost of the consistence of bone to the touch. As a usual result of severe injuries or fractures of the external ear we have either perichondritis or a hæmatoma resulting. As there was no loss of the cutaneous covering in this case, and no way by which the parts could become infected with pathogenic micro-organisms, we had no septic inflammation resulting, and therefore perichondritis was characterized by its absence.

Hæmatoma, as the result of fracture of the auricle, is usually due to a rupture of one of the small blood-vessels ramifying over the anterior surface, the blood as a usual rule dissecting up the perichondrium and forming a deep-red mass occupying the concha. In the majority of cases similar to the one here reported it is impossible to diagnosticate the fracture by simple visual examination; but manipulation with both hands, one grasping the pinna and the other the lobule, will elicit crepitus, and if transillumination is used the line of fracture can be readily made out, especially if inflammatory changes have not progressed to any great extent.

In this woman's case the treatment advised was to leave the ear alone and Nature would throw out enough new tissue to heal the fractured parts. When inflammation ensues, or a hæmatoma forms, the line of treatment based on general surgical principles will be sufficient, care always being taken to avoid subsequent deformity.

3554 NORTH BROAD STREET.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Pathology, on Tuesday evening, the 18th inst., Dr. William C. Krauss was to read a paper on The Pathology of the Cerebellum; specimens were to be exhibited by Dr. Marcell Hartwig and Dr. A. L. Benedict; and an exhibition of veterinary specimens and anomalies was to be provided by Dr. John T. Claris, inspector of the State board of health.

A CONTRIBUTION TO
THE TREATMENT OF GONORRHŒA.

By HERMANN GOLDENBERG, M. D.

In his introduction to the *Comments on Materia Medica, Pharmacy, and Therapeutics of the Year 1896*, Dr. Squibb remarks: "It is agreeable to report that in a general way the craze for novelties has somewhat subsided during the past year, although there are abundant evidences that the mill is still grinding, especially in that ever-fertile source of supply, Germany."

In the face of this statement it is with a feeling of hesitation and with a plea for excuse that I join the ranks of those who advocate a new drug. It is true that new remedies, having the indorsement of eminent authorities, are placed upon the market in such rapid succession that one has hardly time to become familiar with their use before a superior substitute is recommended. This probably is the cause of the indifference and skepticism displayed by many physicians as regards new remedies. Yet we are scarcely warranted in carrying our conservatism to such a point as to reject those new drugs whose chemical composition is such as to promise advantages over the older ones.

Whoever has to deal with gonorrhœa knows that, notwithstanding the multitude of remedies and methods at our command, but few of them come up to our expectations, and this, in my opinion, applies even to the much-lauded Janet's method. I had practised the early irrigation treatment with permanganate of potassium long before Janet published his first paper, and have advocated it under proper restrictions, without, however, being carried away in my enthusiasm, as some of my colleagues have who make use of every opportunity to proclaim this method as the ideal one in every case and in every stage of gonorrhœa. Although it is true that this procedure gives good results if the patient presents himself at the very earliest stage of gonorrhœa, it is contraindicated when the inflammatory symptoms are pronounced. In this connection, I would remark that complicated appliances are unnecessary in practising this method. For irrigation of the anterior urethra an ordinary irrigator, placed at a proper height and provided with a glass tip, will answer the purpose, while for flushing the posterior portion of the canal a large hand syringe, holding about five ounces, with a porcelain or glass tip which fits sufficiently tightly to close up the meatus, is to be preferred. In this way we overcome the resistance of the cut-off muscle with greater ease than with the Janet method; the pressure can be regulated according to the degree of muscular resistance and the sensitiveness of the patient.

While the Janet method, therefore, has a certain field of usefulness, particularly in hospital practice, its disadvantages in private practice are sufficiently manifest to preclude its general employment, as even in those cases where it is applicable few patients are willing to spend the necessary time and money.

For this reason any kind of treatment which the patient is able to carry out himself will always enjoy the greatest popularity, and it must be our aim to prescribe such remedies as, when properly used, will destroy the gonococcus without injury to the urethral mucous membrane.

We are indebted to Neisser for the introduction of the nitrate of silver for this purpose, which for a long time has been a favorite means for the destruction of the gonococcus. As the effect of this drug is only superficial, owing to its forming insoluble combinations with albuminous substances, and as the gonococcus penetrates at an early period into the deeper layers of the epithelium—and even into the connective tissue—the physician has long been desirous of obtaining a silver compound which would not form insoluble, and consequently inert, albuminates.

Recognizing this want, synthetic chemists have endeavored to prepare silver compounds which would be free from this disadvantage, such as argentamine and argonin. Although it must be conceded that these preparations exhibit a more penetrating effect than nitrate of silver, and must be regarded as valuable acquisitions, I have, during the past few months, become familiar with a new silver salt which has proved even more effective. This remedy, known as protargol, is a light yellow powder, readily soluble in water, containing 8.3 per cent. silver in firm combination with a highly diffusible proteid base. Its solutions, which are clear and of neutral reaction, are not precipitated by alkalies, albumin, or acids, and hence its effect is not interfered with or impaired by the presence of these substances. It is advisable to preserve the solutions in dark bottles. Owing to its chemical constitution, its combination with a highly diffusible base, there is reason to believe, *a priori*, that it exerts a more penetrating effect than any other compound yet brought before the profession.

Although since July I have had an opportunity of testing protargol in more than sixty cases in dispensary and private practice, I am well aware of the difficulty of presenting accurate statistics as regards the duration of the affection under its use, and of instituting comparisons with other anti-gonorrhœal agents. Particularly with reference to the rapidity of the cure, I coincide with Neisser, who lays more stress upon the reliability of the remedy than upon the rapidity of its action. The period of experimentation and the quantity of clinical material are sufficient, however, to afford me a fair general estimate of the value of the new drug, which agrees in the main with that expressed by Neisser *—namely, that it surpasses all other agents hitherto in use for the treatment of gonorrhœa.

As to the mode of application, this will depend upon whether the inflammation is localized in the anterior urethra or has invaded the posterior portion of the canal. In the former case the patient is instructed to inject a one-per-cent. solution with an ordinary urethral syringe holding three drachms; this is retained for from ten to fifteen minutes, and the injection is repeated three times daily. In posterior urethritis the injections are made by me with a hand syringe having a capacity of five ounces, of the kind already described, or with the Guyon instillator. The strength of the solutions for the posterior urethra has varied from one half to one per cent.

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* *Dermatologisches Centralblatt*, No. 1, 1897.

The treatment was found absolutely painless, and unattended with any evidences of local irritation or general disturbances. The injections were kept up, although less frequently, even after the disappearance of gonococci, until the urine became perfectly clear and free from filaments (*Tripperfaden*). Examinations for gonococci were made, after Gram's method, at intervals of a few days, and the permanence of the cure was tested by ordering the patient to drink a moderate amount of beer while still under treatment. In some cases, after the disappearance of the gonococci, a slight discharge persisted, which subsided under the conjoint use of astringent injections (Ultzmann's solution or ichthyol).

Besides its employment in injections, I have tried, as an abortive method in two acute cases, insufflations of the pure powder through an endoscopic tube introduced up to the cut-off muscle. The effect of this mode of application was satisfactory to a certain extent, as shown by the rapid disappearance of the gonococci and a cure within a few days. On the other hand, considerable irritation resulted from the introduction of the endoscopic tube, and, until a more agreeable method of insufflation has been devised, we shall have to dispense with this mode of application in acute cases. That the irritation was not due to the protargol, but to the instrumentation, was proved by the excellent results obtained with the pure powder in four chronic cases of anterior urethritis, with gonococci, which had not been cured by previous topical treatment with nitrate of silver. Equally good results were obtained in some subacute and chronic cases, with gonococci, from the use of a ten-per-cent. protargol ointment (lanolin, 95; olive oil, 5), applied by means of a steel sound retained in the urethra for fifteen minutes. It is obvious that by this means of application the protargol is forced more thoroughly into the follicles and lacunæ, and remains in contact with the urethral mucosa for a longer period.

I intend to try gelatin urethral bougies of protargol as soon as I can have them made in the proper manner.

In conclusion, I can but confirm the statement of Neisser that no other remedy gives such uniformly good, reliable, and quick results as have been witnessed from the use of protargol.

METASTATIC UVEITIS IN BOTH EYES,

CAUSING BLINDNESS,
RESULTING FROM AN INTENSE INFLAMMATION OF THE NOSE AND ITS ACCESSORY SINUSES.

By WILLIAM CAMPBELL POSEY, M. D.,
PHILADELPHIA.

The case which I exhibit this evening is of interest as it shows that an occupation that is ordinarily supposed to be free from any baneful influence upon the body may, when it is practised under certain conditions, be most dangerous and prejudicial to the health and safety of the person engaged in it. I refer to the modern laundry.

The patient, J. C., a woman, aged twenty-seven years, first consulted me about a year ago, when she recited the following story: She had been engaged some four or five years previously in a large steam laundry as a mangler—her duty consisting in passing wet clothes through a drying machine. She was accustomed to remain at this machine all day long in rather confined and illy ventilated quarters. After she had been at this work about six or eight months she began to be troubled by a sense of irritation in her nose and a tingling sensation in both hands. The nasal irritation became very marked, there was a profuse discharge from the nares, her mouth was sore, and she suffered quite severely from sore throat. The eyes were also watery and slightly injected, and after several months she noticed that her vision began to fail. The nasal symptoms finally subsided after some months, but her sight grew progressively worse, so that at the end of a year she could barely see the knob on the door. She continued at her work, however, another year, never dreaming that her occupation had anything to do with her loss of sight, although she realized that her nasal troubles had doubtless been occasioned by it; for from the first she had noticed that acid fumes were given off from the clothes, and that the steam which arose from the water was extremely irritating to her air-passages.

At the end of two years she left the laundry, as she now was quite blind. She visited several ophthalmic clinics, where she was told that her case was hopeless—that her sight was irretrievably lost. As mention was made by one of the doctors at one of these institutions that her blindness was probably due to the action of acids in the water, she determined to consult an attorney with a view to obtaining damages for her loss of sight.

At the trial which was finally instituted it was brought out by the man in charge of the laundry that he was accustomed in certain parts of the process to use chlorine gas, sulphuric acid, and oxalic acid for bleaching and cleansing purposes in varying strengths. He testified that on several occasions, when hurried, the acid solutions had been so strong that the linen subjected to the action had literally crumbled away.

She was finally non-suited on account of some legal technicality in regard to the relation between employer and employee.

When I examined the patient prior to the trial, she having been sent to me by her attorney for an opinion, I thought at first that her ocular condition had not been caused by acids, for I found but slight evidence of the action of the fumes upon the exposed portions of the eyes. The conjunctivæ were healthy, and the corneæ were clear, save for a small nebula in her right eye near the lower outer limbus. The globes, however, were shrunken, somewhat quadrate in appearance, and quite soft. The interior of the eyes presented a very striking appearance, showing all the signs of a previous uveitis of intense degree. The anterior chamber in each eye was filled up by the thickened and discolored iris. The pupillary edge of the iris was indrawn, and the crater-shaped pupil was filled in with a mass of organized lymph. There were new-formed vessels coursing over the irides from the limbus. On account of the absence of any appreciable signs of exterior inflammation, it was at once evident that the inflammatory material must have been carried to the eyes from within. In other words, I believed the ocular inflammation to be of an embolic nature.

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* Read before the Ophthalmological Section of the College of Physicians of Philadelphia, November 16, 1897.

In searching for a possible source of origin for the emboli, I remembered that her first symptoms while at the laundry were those of nasal irritation; and an examination of the nose, which I at once had instituted, showed evidence of its having been subjected to previous inflammation of such severe character that I had no hesitation in imputing the ocular inflammation to that source—the more readily, as I was able to eliminate, after a searching examination, any other possible source of septic infection throughout her body. There had been no previous illness. She had never had rheumatism, and there was no indication of syphilis.

Dr. George Stout, who made the rhinological examination for me, reports, in short, as follows:

"Right nasal fossa: Membrane somewhat too red (probably from wind); ridges projecting at the junction of the quadrate cartilage with the perpendicular plate of the ethmoid, with the vomer, and the superior maxillary crest. Evidences of erosion.

"Left nasal fossa: Spur along junction of cartilage with the maxillary crest and irregularities of the sæptum. Evidences of erosion.

"The inferior turbinates present the 'grubworm' appearance so often seen following a severe chronic hypertrophic rhinitis.

"In fact, all the findings indicate the after-effect of a hypertrophic rhinitis, she being now in the stage which some writers call the beginning of atrophic rhinitis, and which they claim follows the hypertrophic.

"Pharynx: Granular and showing irregular meshes of vessels coursing through the membrane; chordæ large; mouths of Eustachian tubes prominent; anterior pillars of the fauces injected; tonsils irregular, but not unduly large; vault of mouth deeply corrugated anteriorly. Many teeth gone.

"Larynx: Epiglottis somewhat anæmic; vocal cords congested, also trachea; tips of arytænoids do not meet by nearly half an inch, showing probably muscular insufficiency."

So far as I know the case is unique, and it is partly upon this account that I show the patient, although my chief wish in so doing is to call the attention of the section to a case of blindness from uveitis where the initial lesions seem to have been in the nose and its accessory sinuses.

The Alumni of the Sloane Maternity Hospital have organized with these officers: President, Dr. Ervin A. Tucker; vice-president, Dr. Samuel M. Brickner; secretary, Dr. Ernest A. Gallant; treasurer, Dr. George L. Brodhead.

Therapeutical Notes.

A Potion for Pulmonary Congestion in Infants.—The *Indépendance médicale* for December 29th attributes the following formula to Périer:

℞ Ammonium acetate	15 to 30 grains;
Sodium benzoate	30 "
Oxymel of squill	150 "
Syrup of cherries	450 "
Distilled water	1,650 "

M. S.: A teaspoonful or dessertspoonful every hour.

A Lotion for Itching of the Anus.—The following formula, according to the *Indépendance médicale* for December 29th, is that of Penzoldt:

℞ Sodium hyposulphite	30 parts;
Carbolic acid	5 "
Glycerin	20 "
Distilled water	450 "

M. Compresses wet with the solution are to be applied to the anus frequently.

Hydrastis Canadensis as a Remedy for Cough.—Sänger, of Magdeburg (*Revue internationale de médecine; Revue médicale,* January 5, 1898), has recently observed good results from the use of the fluid extract of hydrastis, in doses of twenty or thirty drops four times a day, in tuberculous subjects. He thinks the drug is superior to all others for phthisical cough; moreover, he says, the muco-purulent expectoration is rapidly modified for the better.

Verstraeten is cited as testifying to the marvelous action of hydrastis. He has employed it in the form of pills, each containing from three quarters of a grain to a grain and a half of the solid extract, of which five may be taken daily, also in the form of the fluid extract, combined with an equal quantity of fluid extract of ergot, in doses of from thirty to forty drops, in a little water, five times a day. In cases of bronchorrhœa, no matter of what nature, he has found the action of hydrastis particularly favorable.

Tannalbin in Diseases of Children.—Three recent articles, by Csemanski (*Prager medicinische Wochenschrift,* 1897, Nos. 24 to 27), Wyss (*Korrespondenz-Blatt für schweize Aerzte,* 1897, No. 15), and Roemheld (*Münchener medicinische Wochenschrift,* 1897, No. 36), are summarized in the *Deutsche Medizinal-Zeitung* for December 27th. Csemanski finds tannalbin particularly useful as an astringent in the most diverse forms of intestinal catarrh in nurslings and in rhachitic children, with which, he remarks, the phenomena of tetany and spasm of the glottis are often closely connected.

The dose for nurslings, according to Wyss, is three or four grains two or three times a day or, in severe cases, five or six times a day; that for children from one to two years old is seven or eight grains two or three times a day or half that amount three or four times a day; and that for children between two and five years old is seven or eight grains from three to five times a day. It is important that the use of the drug should be continued for a day or two after the diarrhœa has ceased.

Roemheld recommends tannalbin for the relief of the diarrhœa that is apt to attack children who are taking cod-liver oil or creosote.

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THE CITY BOARD OF HEALTH AND THE DRUG BUSINESS.

The attitude of the late New York city board of health toward the medical profession in two rather important respects was discussed at a meeting of the Clinical Society of the New York Post-graduate Medical School and Hospital, which was held on January 7th. Dr. George B. Fowler, who was a member of the old board, furnished the subject for the occasion in a paper entitled Some Glimpses of the New York Board of Health, which he read. Dr. Fowler's paper explained in a full and lucid manner the methods used by the board in caring for the health of the city. It was in effect a report of the work done by the board and the excellent results attained, notably the reduction of the death-rate to 19.52 in a thousand.

The two points in Dr. Fowler's paper that were of special interest to those who heard it concerned the tuberculosis circulars sent out by the board some time ago and the manufacture, selling, and dispensing of diphtheria antitoxine and other products.

We shall not refer further in this article to the subject of what the board did in the matter of tuberculous disease, or the question of what it may have thought of doing. A fair portion of the discussion turned on the board's mercantile transactions, and to that point we shall confine our attention at present.

Dr. A. M. Phelps said that the board should be thanked for the able work that had been done in its bacteriological department, but when it engaged in commercial enterprises it struck a blow that was of serious import. Physicians, he said, did not all believe in the production and vending of antitoxine, tuberculin, etc., any more than they would believe that it was the business of the board of health to engage in the preparation and vending of milk and food supplies. They might as well say that they would form a trust to provide these things. The speaker did not believe for a moment that it was the business of the board of health to produce tuberculin and antitoxine, or to have a cow-pox farm. He believed that the board injured itself by entering upon commercial enterprises. As to the cow-pox farm, it should be carried on by private individuals, but the board of health should have the same supervision of it as it had of the milk supply and other like matters. The board furnished antitoxine to the poor and to public institutions, but it could be bought in quantities sufficient for such purposes for much less than the amount expended by the board in its production. They also supplied antitoxine to their medical inspectors. They had vaccinated an immense number of persons, a great majority of whom were amply able to pay the private physician for doing this work. In cases in which the persons were too poor to pay for vaccination the city physician should attend to them and the city should pay for it. Dr. Phelps thought that so long as the board of health was engaged in commercial enterprises the medical profession would look with suspicion upon the board's desire for the segregation of tuberculous patients.

Dr. W. C. Phillips thought Dr. Phelps was right in what he had said about antitoxine and vaccine. He certainly thought it was very wrong for the inspectors to go to the schools and vaccinate children whose parents were able to pay for their vaccination. A boy's father had paid the speaker a large fee for an operation, and yet the board of health had vaccinated the boy free.

The chairman, Dr. R. W. Wilcox, said he had gone over this ground many times and had given it special attention during the last few years, for the action of the board of health had been a burning question. He wished to disclaim any personal feeling toward Dr. Fowler in any remarks that he might make, for whenever an abuse had existed in the board of health Dr. Fowler had had nothing to do with it. There were some things in the board's doings which were not approved of by the medical profession, and last spring the fact had been thoroughly indicated when, at the Academy of Medicine, Dr. A. Jacobi offered a resolution in favor of legislation defining the power of the board. Of course, the board of health had made errors, and we expected them, but the work in the main had been good. Free vaccination should call for protest. He was thoroughly in accord with Dr. Phelps and Dr. Phillips in regard to the commercial enterprises of the board of health. If the board felt it their duty they certainly had the power, should they desire it, to go into the milk, food, beer, or dry goods business; he knew of no power at present that could prevent them, for they were above rule. There were instances of gross and flagrant abuses and inconsistencies, but he thought it due to the commissioners to say that they had performed their duties well, and, as they had not abused their trust in the past, he felt that we could trust the new commissioners also, especially as one of them was a man who, by his fidelity and energy, almost single-handed, had protected New York from the cholera.

Dr. Fowler, responding to the criticisms of his paper, said he had not come to defend the board of health, but to present some of the work done by that body. He was not in favor of boards of health manufacturing or selling anything.

THE MEDICAL MAN IN RECENT LIGHT LITERATURE.

It is gratifying to see that members of the medical profession are growing more and more disposed to contribute to light literature. Two notable novels by American physicians have appeared lately. One of them, by Dr. S. Weir Mitchell, of Philadelphia, is entitled *Hugh Wynne, Free Quaker, sometime Brevet Lieutenant-Colonel on the Staff of His Excellency General Washington.** This story ran through the *Century Magazine* before being brought out in book form, and we are informed that the book itself has had an exceptionally large sale, so we have no doubt that most of our readers have had the pleasure of reading it. Those who have not should lose no time in obtaining it. It is one of the strongest and most charming historical novels that we know of, far in advance of any of the distinguished author's other stories that have come to our notice. It is a disgrace that so many of the American people know practically nothing of the grandest man in all history, George Washington. This should be remedied. It is within the power of everybody who can read the English language to acquire some insight into that noble character, and we know of no readier way to do so than by reading *Hugh Wynne.* Besides, the story is interesting and the characters are very artistically depicted. There is another charming feature—an approach to blank verse almost as majestic as that of *Lorna Doone.*

The other novel is by Dr. Alexander J. C. Skene, of New York. It is entitled *True to Themselves, a Psychological Study.*† Some of Dr. Skene's friends have long been aware that he had gifts that would have enabled him to become prominent in the world of art, had he chosen to make that his main object in life, but, so far as we are informed, this story is his first literary production outside the field of medicine. We hope he will feel encouraged to further efforts. His book contains enough of Scotch dialect to satisfy the present fad for that sort of thing, and the story, whatever we may think of the hero, is a convenient framework on which to hang such philosophical discourse as that which comes gracefully from Dr. Skene's kindly mind.

Another book, one in which the doctor figures as a character and not as an author, is the *Rubáiyát of Doc Sifers,** by Mr. James Whitcomb Riley. It is a portrayal of a typical whole-souled country doctor, so delightfully done that we do not tire of the mining-camp dialect in which the whole thing is written. Mr. Riley has depicted such a man as is not yet extinct—far from it, we are glad to be able to say.

MINOR PARAGRAPHS.

A WORD CONCERNING MEN'S NAMES IN NOMENCLATURE.

The use of a single personal name in designating anatomical parts, physical phenomena, surgical operations, diseases, etc., is perhaps defensible from some points of view, however objectionable it may be from others. But the hyphening of two such names sometimes leads to results that are somewhat puzzling at the first glance. For example, in a recent number of the *Centralblatt für Gynäkologie* we find an article by Dr. Ludwig Pernice, entitled Zu meiner Modifikation des Alexander-Adam!

A NEW BORDERLAND JOURNAL.

The first number of the *Centralblatt für die Grenzgebiete der Medizin und Chirurgie,* for December, 1897, has reached us. It is an octavo of sixty-four pages, well printed and in every way of good appearance. It is edited by Dr. Hermann Schlesinger, of Vienna, and published by Gustav Fischer, of Jena. The number opens with a graceful *envoi* signed by Mikulicz and Naunyn, the editors of the *Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie,* of which journal it seems to be a complement.

OLIVE OIL AND HEPATIC COLIC.

The question of the use of sweet oil as a remedy for hepatic colic crops out every now and then. A writer in the *Semaine médicale* for December 1st (*Lyon médical,* December 19th) refers to the slow solvent action of the oil on cholesterin concretions, but says that this mechanical effect is not the only one that it exerts. He thinks that by its sedative and lubricating properties it allays the spasmodic contraction of the bile ducts that constitutes the chief element of the trouble. Moreover, its "digestive elaboration," he remarks, is accompanied by a very abundant secretion of liquid bile, which persists for three hours. Evidently the writer is not imbued with "therapeutic nihilism."

THE NEW VIENNA CLINICO-THERAPEUTICAL JOURNAL.

With its issue for January 2d the *Therapeutische Wochenschrift* entered upon the fifth year of its publication with its title changed to the *Klinisch-therapeutische Wochenschrift.* It is enlarged and much improved in appearance.

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* New York: The Century Company.

† New York: F. Tennyson Neely.

* New York: The Century Company.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 18, 1898:

DISEASES.	Week ending Jan. 11.		Week ending Jan. 18.	
	Cases.	Deaths.	Cases:	Deaths.
Typhoid fever	14	1	12	2
Scarlet fever	206	16	227	14
Cerebro-spinal meningitis	1	0	1	0
Measles	401	17	341	15
Diphtheria	183	27	160	19
Croup	12	3	10	4
Tuberculosis	121	111	181	90

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox and yellow fever were received in the office of the supervising surgeon general during the week ending January 15, 1898:

Yellow Fever—United States.

Whistler, Ala	Dec. 27–Jan. 4	2 cases.	
New Orleans, La	Jan. 2–8	1 case,	1 death.

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	Dec. 4–11	1 case.	
Cienfuegos, Cuba	Dec. 27–Jan. 2		1 death.
Havana, Cuba	Dec. 31–Jan. 6		1 “
Manzanillo, Cuba	Dec. 1–15		21 deaths.
Regla, Cuba	Dec. 31–Jan. 6		2 “
Santiago de Cuba	Dec. 19–25		2 “
St. Elizabeth, Jamaica	Dec. 19–25	1 “	1 death.

Small-pox—United States.

Bessemer, Ala	To Jan. 6	42 cases.	
Birmingham, Ala	Jan. 6	3 “	
Wilmington, N. C	Jan. 12	1 case.	

Small-pox—Foreign.

Prague, Bohemia	Dec. 12–18	14 cases.	
Rio de Janeiro, Brazil	Dec. 4–11		3 deaths.
Montreal, Canada	Jan. 4–12	1 case.	
Hong Kong, China	Nov. 20–27	3 cases,	3 “
Cienfuegos, Cuba	Dec. 27–Jan. 2		4 “
Havana, Cuba	Dec. 26–Jan. 1		3 “
Rotterdam, Netherlands	Dec. 17–31	1 case.	
Odessa, Russia	Dec. 19–25	9 cases,	1 death.
St. Petersburg, Russia	Dec. 19–25	9 “	1 “

An Unsigned Communication on the subject of the late Professor Lewis's operation for hydrocele has been received at this office. We must ask the writer to send us his name before we can publish it.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 15th inst., Primary Glaucoma was to be discussed as follows: General Considerations, by Dr. S. Pollak; Its Pathology, by Dr. C. Barck; The Symptoms, by Dr. F. L. Henderson; Differential Diagnosis, by Dr. C. L. Wilson; and Its Treatment, by Dr. J. E. Jennings.

The Obstetrical Society of Cincinnati has elected officers for the year as follows: President, Dr. E. S. McKee; vice president, Dr. W. D. Porter; recording secretary, Dr. William Gillespie; corresponding secretary, Dr. M. A. Tate; treasurer, Dr. George E. Jones; librarian, Dr. C. L. Bonnifield.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 9 to January 15, 1898:*

EGAN, PETER R., Captain and Assistant Surgeon, is relieved from duty at Fort Hamilton, N. Y., and assigned to duty at Fort Hancock and the Sandy Hook Proving Ground, N. J., with station in New York city, and will make daily visits to and between those points until he shall be furnished with suitable quarters at Fort Hancock.

KOERPER, EGON A., Major and Surgeon. The leave of absence granted him is extended two months.

MASON, CHARLES F., Captain and Assistant Surgeon, is granted leave of absence for two months, with permission to go beyond sea, to take effect April 1st.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two Weeks ending January 15, 1898:*

DUNBAR, A. W., Passed Assistant Surgeon. Detached from the Vermont and ordered to the Nashville, January 15th, and, on arrival of the Nashville at the European station, is ordered to the San Francisco.

KIDDER, B. H., Medical Director. Detached from duty with the Medical Examining Board, Washington, January 21st, and ordered home on waiting orders.

Retirement.

KIDDER, B. H., Medical Director. Retired January 23d.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers for the Twenty-one Days ending January 13, 1898:*

CARTER, H. R., Surgeon. To report at bureau, January 3, 1898, preliminary to return south. December 29, 1897.

WHITE, J. H., Passed Assistant Surgeon. To report at bureau, January 3, 1898, preliminary to return south. December 29, 1897.

PETTUS, W. J., Passed Assistant Surgeon. To assume command of service at Norfolk, Va., in addition to duties as commanding officer of the Cape Charles Quarantine. January 10, 1898.

WERTENBAKER, C. P., Passed Assistant Surgeon. Granted seven days' leave of absence from January 9, 1898. January 7, 1898.

GARDNER, C. H., Passed Assistant Surgeon. Upon being relieved by Passed Assistant Surgeon W. J. PETTUS, to rejoin station at Baltimore, Md. January 10, 1898.

HASTINGS, HILL, Assistant Surgeon. To proceed to Birmingham, Ala., and report to Passed Assistant Surgeon G. M. MAGRUDER for special temporary duty. January 8, 1898.

MCMULLEN, JOHN, Assistant Surgeon. To proceed to Chicago, Ill., and report to the commanding officer for duty and assignment to quarters. January 10, 1898.

Board Convened.

Board convened to meet in Washington, D. C., January 25, 1898, for the examination of applicants for appointment as Assistant Surgeon in the Marine-Hospital Service. Detail for the Board: Surgeon H. W. AUSTIN, chairman; Surgeon FAIRFAX IRWIN; Passed Assistant Surgeon G. T. VAUGHAN, recorder.

Changes of Address.—Dr. Edwin R. Chadbourne, from New York to South Orange Grove Avenue, Pasadena, California; Dr. Eugene H. Fried, to No. 181 West Eighty-eighth Street, New York.

Society Meetings for the Coming Week:

MONDAY, *January 24th:* Medical Society of the County of New York; Lawrence, Massachusetts, Medical Club (private); Cambridge, Massachusetts, Society for Medical Improvement; Baltimore Medical Association.

TUESDAY, *January 25th:* Medical Society of the State of New York (annual, first day, Albany); New York Dermatological Society; Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); Medical Society of the County of Putnam (quarterly), N. Y.; Richmond, Virginia, Academy of Medicine and Surgery.

WEDNESDAY, *January 26th:* Medical Society of the State of New York (second day); New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.;

Middlesex, Massachusetts, North District Medical Society (Lowell); Gloucester, N. J., County Medical Society (quarterly); Philadelphia County Medical Society.

THURSDAY, *January 27th:* Medical Society of the State of New York (third day); New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Massachusetts, Society for Medical Improvement (private); Pathological Society of Philadelphia.

FRIDAY, *January 28th:* New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Births, Marriages, and Deaths.

Born.

McCUTCHON.—In New Orleans, on Saturday, January 8th, to Dr. and Mrs. Percival B. McCutchon, a son.

Married.

BLOUNT—SMITH.—In New Orleans, on Tuesday, January 18th, Dr. James Blount and Miss Marie Smith.

CARTER—PETTIT.—In South Orange, N. J., on Wednesday, January 12th, Dr. Herbert Swift Carter and Miss Mabel Stuart Pettit.

DOYLE — JONES. — In Laurens, South Carolina, on Wednesday, January 12th, Dr. E. C. Doyle, of Seneca, South Carolina, and Miss Emma Jones.

GATES — FAVROT. — In Baton Rouge, Louisiana, on Wednesday, January 12th, Dr. Sterling Johnson Gates, of Franklin, Louisiana, and Miss Ada Favrot.

Died.

AMES.—In Starkville, Mississippi, on Wednesday, January 12th, Dr. William N. Ames.

ROBB.—In Selma, Alabama, on Wednesday, January 12th, Dr. William H. Robb, of Amsterdam, N. Y., in the fifty-fifth year of his age.

Letters to the Editor.

THE QUESTION OF SENSORY FIBRES IN THE HYPOGLOSSAL NERVE.

NEW YORK, *January 8, 1898.*

To the Editor of the New York Medical Journal:

SIR: Permit me to make the following remarks in reply to the letter of Dr. William Hirsch in to-day's issue of the *Journal:*

Dr. Hirsch maintains that Lewin's theory (of the hypoglossus containing sensory fibres) is not based solely upon the experiments, but quite as much upon the clinical evidence derived from a case of hemiplegia of the tongue, with sensory disturbance, described by Lewin. I really believe that Dr. Hirsch, as well as other writers on this subject, are doing injustice to the late Professor Lewin. In the reprint of Lewin's article, which I have now before me, I find in the clinical part no statement which could be justly construed as the putting forth of a definite opinion with regard to the presence of sensory fibres in the hypoglossus. He only states that the finding of sensory disturbance in his case gave rise to his extensive study of this subject. I shall quote here verbatim the entire passage, and leave it to the reader to judge for himself. On page 30 of the reprint it reads as follows: "Aus diesem Grunde trat an uns die Frage, ob nicht vielleicht diese Sensibilitätserscheinung auch durch die Erkrankung des Hypoglossus bewirkt werden könnten. Wie weit diesem Nerven sensible Energie zukommt, ist eine Frage, welche früher vielfach ventilirt, in der Neuzeit aber weniger beachtet worden ist. Es schien mir deshalb wichtig, auf diesem Punkt näher einzugehen." The only place in the article where a definite statement is made with regard to the presence of sensory fibres within the trunk of the hypoglossus is at the end of the experimental part, and of these conclusions I have a personal knowledge that they were drawn only from our experiments upon the animal.

Dr. Hirsch finds a discrepancy between my statement in the letter to the *Journal* that the sensory fibres join the trunk of the hypoglossus at a point considerably below the superior cervical ganglion, the seat of the lesion in his case, and the original communication of Lewin's, where it is maintained that sensory fibres run with the hypoglossus up to the point at which it emerges from the cranium. This discrepancy does not exist. I did not say, as Dr. Hirsch quotes from my letter, that the sensory fibres "join the trunk at a point peripheral to the division and by way of the descending branch," but I said, "they join the trunk at a point peripheral to the division, and they reach it *also* by the way of the descending branch," and in the preceding sentence I stated expressly that the division was made at a point central to the descending branch. I can add now that this point was in two experiments indeed very near the cranium. On page 56 of the reprint (the page before the last) the reader will find the experiments from which the statement was derived that sensory fibres accompany the trunk of the hypoglossus up to the point at which it emerges from the anterior condyloid foramen.

Dr. Hirsch finally says that he can not agree with me in my conclusion that the existence of sensory fibres in the *human* hypoglossus is no longer a theory, but a fact. Where and when did I state such a conclusion?

Perhaps Dr. Hirsch will agree with me upon the following points: That the experiments upon dogs and rabbits have shown that, in these animals at least, the trunk of the hypoglossus contains some nerve fibres carrying centripetal impulses. Further, that if Lewin drew any definite conclusions with regard to the human hypoglossus, either from his case or from our experiments, he was not justified in doing so. Finally, that the case of Dr. Hirsch does not contain any element which is in contradiction with the facts derived from the experiments upon animals; nor does it disprove the possibility of the presence of such sensory fibres in the human hypoglossus of the same character and extent as were found in the trunk of the hypoglossus of the dogs.

S. J. MELTZER, M. D.

NEW YORK, *January 10, 1898.*

To the Editor of the New York Medical Journal:

SIR: It gives me much pleasure to see from the foregoing letter of Dr. Meltzer's that after all there does not exist any difference of opinion between us regarding the function of the human hypoglossal nerve.

That I never attempted to disprove the direct results of the animal experiments of Dr. Meltzer I expressly stated in my previous letter.

Dr. Meltzer's statement that Lewin was not justified in drawing any conclusion with regard to the function of the human hypoglossus from the experiments is in full harmony with the views expressed in my original article. That Lewin, however, did draw such a conclusion not only has been understood by all other writers who have referred to his article, but was known to me from personal discussions which I had with Lewin on this subject.

That there is a possibility that the hypoglossus, as well as other motor nerves, contains centripetal fibres (but not sensory in the clinical sense), either for reflex action or for some other unknown function, is a theory which of course neither my case nor any number of other cases could ever disprove. For practical purposes, however, the vast amount of clinical evidence compels us to consider the hypoglossus a purely motor nerve. William Hirsch, M. D.

Proceedings of Societies.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Meeting of November 10, 1897.

The President, Dr. Brooks H. Wells, in the Chair.

Enterolith.—The President presented a specimen of enterolith which had been removed last summer. The patient was an elderly woman and extremely stout, weighing nearly three hundred pounds, who had had attacks of colicky pain at intervals for a number of months. She had been seized with acute symptoms of intestinal obstruction, and one of the most celebrated surgeons in New York city had seen her about twenty-four hours after the onset of these symptoms. He had given it as his opinion that the obstruction was probably caused by a malignant growth, and had not advised an operation; he had said it was undoubtedly a condition that could not be relieved by surgical measures, and they might as well let her die in peace. Forty-eight hours after, her son, who was a physician, had arrived, and as the patient was very much worse he had telegraphed for the speaker. Three days after the beginning of the trouble Dr. Wells had seen the patient. The temperature had been 100° F.; pulse, 120, weak, and somewhat irregular; the abdomen had been distended, and the patient had had constant fæcal vomiting and severe pain in the region of the umbilicus. As the diagnosis of the cause of the obstruction had been uncertain, he had decided to operate and, with a faint hope of saving the patient's life, had given an anæsthetic and had cut down in the median line. In a few seconds a coil of small intestine had been found containing a stony body shaped like a sausage. This had been removed and the gut sutured. The operation had been done very quickly, but the patient had stood the anæsthetic badly; she had been very cyanotic and had nearly died on the table. She had been put back to bed, had regained consciousness, had expressed great relief from the pain and had ceased to vomit, but a few hours later acute pulmonary œdema had developed and she had died. The case showed how impossible it might be to make a complete diagnosis in a very fat person. The condition as found had been very simple, and it certainly had seemed that if the woman had been operated on at the beginning of the trouble there would have been a fair chance for her recovery. In regard to suturing, he liked to sew up the abdominal wall in layers. Out of a large number he had not had a single case of suppuration, and many of the patients had had walls which were extremely fat. By closing the peritonæum with very fine catgut and the fascia with kangaroo tendon, bruising the fat as little as possible, and bringing the skin edges together with thin catgut or silk, unless the wound was infected badly, it was made to heal with little trouble. If it was infected with pus, he would use silkworm-gut sutures through all the layers.

Dr. Frederick Holme Wiggin said that he thought it was unfortunate that Dr. Wells had not seen the patient sooner, and that if he had done so she probably would have had her life prolonged. His own experience had taught him that patients who had suffered from constant and prolonged vomiting, with its consequent starvation, did not bear the administration of anæsthetic agents well. He also thought that symptoms of obstruction of the small intestine were not so likely to be due to malignant disease as when the seat of the trouble was farther down the intestinal canal. It was often impossible to make a positive diagnosis as to the cause of the trouble. The greater the experience one had, the less apt was he to make a definite diagnosis in intra-abdominal disorders. Where the patient was in good condition, and the symptoms of intestinal obstruction were reasonably clear, one ought to make an exploratory operation. In fat subjects there was sometimes danger that the wound in the abdominal wall would not unite primarily, but that could usually be avoided. In his own practice he used peroxide of hydrogen to cleanse the edges of the wound, just before closing it. He generally passed silkworm-gut sutures through all the layers of the abdominal wall, about an inch apart, and tied them loosely, so as to allow for a certain amount of swelling. He sutured the edges of the skin with catgut, and found, since he had placed these deep sutures farther apart, and tied them more loosely, that his results were much better than formerly, especially in stout persons. In his experience there was no shock caused by opening the abdominal cavity (unless there was hæmorrhage) except what was due to the anæsthetic. He often had occasion to operate upon women between sixty and seventy years of age, and, as a rule, their convalescence was satisfactory. He had recently operated upon a woman of seventy-three who had had a prolapse of the uterus and vagina. After trying various expedients without avail, he had opened the abdominal cavity, and, after replacing the vagina and uterus, he had attached the vaginal wall on either side to the broad and round ligaments near the pelvic brim, and the uterus to the abdominal wall. The wound in the abdominal wall had been closed in the usual manner. The wound had united primarily and the convalescence had been satisfactory. He thought the main factor of the fatal termination of the operation in the case presented was the *delay*.

Dr. Adolph Rupp asked, if the symptoms had presented an acute character, what justified the surgeon who had refused to operate in making a diagnosis of malignant disease. As to the cause of death after this operation, considering the prostration already existing, the shock of operation in connection with etherization had had considerable to do with it. In regard to etherization bringing on pulmonary œdema, he remembered the case of a girl upon whom he had operated for mastoid disease, whose heart was sound and kidneys normal. but the operation had had to be ended expeditiously on account of cyanosis and pulmonary œdema supervening rather suddenly. Some people bore any anæsthetic badly.

Dr. Charles J. Proben said the case presented reminded him of an experience he had had about a year before. In his patient there had been symptoms of obstruction with fæcal vomiting; eight weeks after confinement she had been attacked with pyosalpinx, and the speaker had operated on her, and she had done very well until the sixth day, when there had been a slight tenderness in the region where the tube had been removed on the left side. This had been followed by a rise of temperature and vomiting, and the patient had died twenty-four hours after the fæcal vomiting had started. The speaker thought that if he had been a little more prompt in operating her life might have been spared.

Dr. George H. Mallett said that it was always easy to look back at a case and say what was best to be done. He thought it was clearly a case for operation, and he remembered a case of vaginal hysterectomy where, from the gauze having been packed very tight, the woman had had just such symptoms, except that they had not been of such long duration. On his removing the gauze and allowing the intestine to assume its normal condition the vomiting had stopped immediately. The one objection he had found to suturing the abdominal wall in layers was that unless the wound was absolutely dry there might be hæmatoma. Two cases had occurred in his practice. And he thought one ought to be sure that there was no bleeding. When the stitches were put all the way through the pressure would check the oozing. Hæmatoma was very painful and was apt to suppurate.

(*To be continued.*)

Book Notices.

Wounds in War. The Mechanism of their Production and their Treatment. By Surgeon-Colonel W. F. Stevenson (Army Medical Staff), A. B., M. B., M. Ch. Dublin University, Professor of Military Surgery, Army Medical School, Netley. London, New York, and Bombay: Longmans, Green, & Co., 1897. Pp. xv–419.

Military surgery, properly speaking, is a distinct branch of the general science, if it is not actually a separate study in itself. The conditions under which a military surgeon must carry into effect the principles of his profession are so totally different from those under which the civil surgeon carries like principles into effect that the art of military surgery becomes, by very reason of the conditions under which it is to be applied, a distinct specialty, if not an actual entity.

Surgeon-Colonel Stevenson has had such opportunities, from his service and as professor of military surgery in England's Army Medical School at Netley, as to promise for this volume respectful and careful attention. We expected rather more from this work than we have realized, however; for, although the book is interesting and should find many readers in civil as well as military circles, we doubt whether any material addition to surgical literature has been effected.

In the opening chapter the author properly lays great stress upon the frequency and importance of gunshot wounds, and, apropos of the subject, traces the evolution of the modern rifle thoroughly. In fact, so extensive is the technical description of various magazine rifles, the characteristics of their projectiles, their velocities, trajectories, energy, and other matters pertaining to the modern small-bore arm adopted by most nations for their forces, that one is reminded of a work on ballistics.

Wounds produced by small-arm bullets are next dealt with, and the general characteristics of these wounds as compared with those produced by the older and more bulky projectiles are demonstrated from experiments.

The so-called "explosive" effects are explained most carefully, and many illustrations serve to elucidate the text. The author alleges as the true cause of the apparently explosive wounds the high rate of velocity, which is tantamount to the great amount of energy, inherent in the bullet at the moment of impact. The much-discussed topic of the "stopping effect" of small-bore bullets is dealt with, as well as wounds by large projectiles and poisonous and burning effects. Shock and hæmorrhage are discussed. Concerning the latter, the author thinks that the modern small-bore is certain to be productive of a higher death-rate from primary hæmorrhage than that by the older bullet.

The general treatment of wounds in war receives due attention and is discussed along the accepted lines of modern surgery. Bullet wounds are described minutely; in fact, general and special gunshot wounds, being numerically the most frequent of all war wounds, receive detailed attention, and, in succession, gunshot wounds of joints, bones, the head and chest, the abdomen and viscera, and the pelvis are exhaustively described in relation to mechanism of production, diagnosis, prognosis, and treatment.

In reference to treatment, the author justly points out that the procedure in any case or series of cases must be determined upon with a view to military expediency, rather than from the surgical standpoint alone. Consequently more radical procedures are advised than would be justifiable if undertaken by the civil surgeon, and one is rather startled by the instances in which a major operation is stated to be the most advisable surgical undertaking.

It is a gloomy outlook that the author takes in closing when speaking of the effects of future war; and the more so because the conditions to be confronted seem to be so inseparable from the existence of battle itself, as the use of the modern arm will tend to increase not only the death-rate of the force engaged, but that of the wounded. In other words, the gunshot wound will be more frequent in battle, owing to the greater range and accuracy of the arm, and will be oftener vital, on account of the projectile's greater penetrating powers and explosive action.

These factors, combined with the impossibility of transporting the wounded in any great number, or with promptness, to the collecting station and field hospital, will render the problem of military surgery more than ever difficult of satisfactory solution.

This volume, then, closing with an account of the tenets of the Geneva Convention, will be of interest and value to all interested in the subject. While it is in no way a departure from or advance in the science of surgery, it should be a useful manual for military surgeons in every service.

Lectures on Physiology. First Series, on Animal Electricity. By AUGUSTUS D. WALLER, M. D., F. R. S., Fullerian Professor of Physiology at the Royal Institution of Great Britain, etc. London, New York, and Bombay: Longmans, Green, & Co., 1897. Pp. viii–144.

THESE lectures (six in number) are based upon the lectures given by the author at the Royal Institution last spring. They deal entirely with the electrical phenomena of nerves, and for the most part with those phenomena observed upon the isolated nerves of frogs. The author endeavors to prove that the "negative variation" is the best measure and criterion of the physiological condition of the nerve, and for the study of this he has developed a very complete method of observing and recording it by means of photography. Of special interest is the part in which the author describes his own experiments upon the effects of anæsthetics and those of carbon dioxide upon nerve. The chief anæsthetics employed were chloroform and ether; both suspend the activity of the nerve, but the former was found to produce a much more profound and lasting effect than the latter, and more care was required to avoid killing the nerve when anæsthesia was produced by chloroform than when ether was employed. The author maintains that these experiments have a practical bearing upon the ether-chloroform controversy; he regards ether as much the safer anæsthetic. One lecture and the greater part of another are devoted to a consideration of the effects of carbon dioxide upon nerves—work for which the author has recently received the Parkin prize of the Paris Academy of Sciences. Briefly stated, it is found that carbon dioxide produces a number of changes in the nerve currents which are strictly analogous to the changes produced by tetanizing the nerve, and from this and other facts he draws the conclusion that carbon dioxide is produced in the normal activity of the nerve. This work is of very great interest in view of the fact that hitherto all attempts to demonstrate the production of carbon dioxide and of other metabolic substances in active nerves have led to negative or doubtful results.

The concluding lectures deal with Pflüger's law, electrotonus, electrolytic polarization, and other difficult and rather obscure subjects; the treatment is somewhat unusual, and a number of new terms are introduced, but the conclusions are in general similar to those reached by other investigators. A number of excellent diagrams and figures are introduced to illustrate the text.

Exercises in Practical Physiology. By AUGUSTUS D. WALLER, M. D., F. R. S., Lecturer on Physiology to St. Mary's Hospital Medical School. Part III. Physiology of the Nervous System—Electro-physiology. London, New York, and Bombay: Longmans, Green, & Co., 1897. Pp. 91.

THESE exercises are intended for class work, to accompany the author's *Introduction to Human Physiology,* and are addressed to students who have some previous acquaintance with the subject. The experiments relating to the electrical phenomena of nerves and the apparatus used in studying and obtaining graphic records of them occupy the larger part of the work, the smaller part being devoted to the description of experiments and demonstrations upon reflex action, tendon reflexes, reaction time, etc. The author's eminence as an investigator in this field of physiology will insure the book a hearty welcome from all engaged in teaching physiology. The simple and clear diagrams of the arrangements of the apparatus are superior to those found in most books of this character, and add much to the value of the text.

The Practice of Surgery. A Treatise on Surgery for the Use of Practitioners and Students. By HENRY R. WHARTON, M. D., Demonstrator of Surgery in the University of Pennsylvania, etc., and B. FARQUHAR CURTIS, M. D., Professor of Clinical Surgery in the New York Post-graduate Medical School and the Woman's Medical School of the New York Infirmary, etc. Profusely Illustrated. Philadelphia and London: J. B. Lippincott Company, 1897. Pp. vii–1240.

THERE has been a growing want of a surgical treatise adapted to the needs of the student. It has been felt not only by the student, but by the teacher as well.

Surgical science has expanded to such an extent, its advance has been so great, that not only are many of our standard surgeries not recent enough, but they also contain much that is only of interest from an historical standpoint.

In our medical schools the lecturer keeps the student informed as to the progress of surgery as far as possible. Yet it is an impossibility to cover the ground in a course limited to one year. Hence we need a book suited to the student. It must treat of all surgical diseases, but can not be expansive. It must present only the good, and it must give prominence to the important points.

These and many other excellent qualities are contained in this book, and thus it differs from our larger works, which are too unwieldy and voluminous for the student, and as a rule are compiled by a number of authors, so that they lack the completeness and continuity, so to speak, which are of vital importance to the beginner.

The general practitioner has also needed a work that would enable him to make a diagnosis and to treat what it was necessary for him to treat; one also that would inform him what could be done in more serious cases, so that he could intelligently have them cared for by the specialist. He will find in this book only the best methods of treatment described, the simpler ones treated of at some length, and the results and prognosis in the more serious cases fully given.

The opening chapters, on surgical bacteriology and diseases, are exceedingly clear, and many a student should be thankful for the lucid description of inflammation, which, strange to say, is to many such a bugbear.

The chapter on tumors is short, but is only a classification, and they are described fully in the chapter on regional surgery.

Minor surgery and wounds are well treated of, on the whole, although possibly some passages might have been omitted and others inserted with benefit.

Plastic surgery is given a very small space, only the principal methods being delineated.

Passing over several excellent chapters on anæsthesia, amputations, the surgery of lymphatics, blood-vessels, nerves, and muscles and their annexa, we come to the surgery of the bones and joints. In these chapters the injuries are first described, with their proper treatment, and then the diseases, and this is followed by a succinct description of the operations for them. A very good chapter on orthopædic surgery follows, in which the operative treatment is given as well as the more usual forms of treatment with apparatus.

The greater part of the rest of the book is devoted to more purely regional surgery, several chapters being allotted to the head and its cavities, and special chapters to the eye and the ear. Other chapters are on the surgery of the neck, the air passages, the chest, the back, the abdomen, the anus and rectum, and the urinary organs.

The chapters on the breast and abdomen are of special merit; the matter is well classified and presented in a clear and terse manner. Only the principal methods of operative procedure are given, but the general treatment is fully described and with excellent judgment. There are also good chapters on venereal diseases and the surgery of the female genitals.

The illustrations are an excellent feature of the book; many are from photographs, nearly all are original, and there are several colored pictures.

From the standpoint of the surgeon the book is perhaps too contracted, but the student is to be congratulated on having within his reach probably one of the best text-books yet printed in the English language.

Tuberculosis of the Genito-urinary Organs, Male and Female. By N. Senn, M. D., Ph. D., LL. D., Professor of Practice of Surgery and Clinical Surgery, Rush Medical College, etc. Illustrated. Philadelphia: W. B. Saunders, 1897. Pp. vi–17 to 311. [Price, $3.]

So much has been written during the past decade upon the subject of tuberculosis of the genito-urinary organs, and so many varying opinions regarding diagnosis, prognosis, and treatment have been advanced, that the student, with but little or no personal experience to guide him, must necessarily have very vague and ill-defined opinions upon this important subject. Professor Senn's book is, therefore, a timely one, for in it he not only gives us a judicious review of the literature of the subject, bringing prominently forward the important facts which have been definitely established, but contributes in addition much valuable information gleaned from his own ripe experience.

The work is divided into ten parts, the first and second of which deal with the various tuberculous inflammations of the male generative organs, the six following parts treat of those of the female reproductive system, and the last two parts are devoted to tuberculosis of the bladder and kidney.

From a careful review of a large number of well-authenticated cases the writer is able to make a number of definite statements regarding certain important questions which have been long in doubt. Some of the most important of these are regarding the mode of infection in many obscure conditions, the diagnosis of tuberculous disease of the ovaries and Falloppian tubes, and much that is of the greatest value in the minute diagnosis of bladder inflammations. These are subjects which have long interested surgeons, and the few definite statements regarding them furnished by the author will be welcomed by medical men.

Dr. Senn's aim, apparently, has not been to write a classical treatise upon the subject, but simply to give to the profession a summary of our knowledge up to the present time.

In this he has been successful, and the book will doubtless receive the hearty indorsement of a large circle of readers.

BOOKS, ETC., RECEIVED.

A Laboratory Manual of Medical Chemistry. Containing a Systematic Course of Experiments in Laboratory Manipulation and Chemical Action, the Non-metallic Elements and the Medicinal Metals, Quantitative Processes applied to Sanitary Water Analysis, Medicinal Organic Compounds, Proteids, Digestion, Blood, Milk, Uranalysis, and Toxicology. By Ira Carleton Chase, A. M., Professor of Chemistry and Toxicology in the Medical Department of Fort Worth University, etc. Fort Worth, Texas: W. W. Underhill, 1897. Pp. vi–3 to 207.

Outlines of Rural Hygiene. For Physicians, Students, and Sanitarians. By Harvey B. Bashore, M. D., Inspector for the State Board of Health of Pennsylvania. With an Appendix on the Normal Distribution of Chlorine, by Professor Herbert E. Smith, of Yale University. Illustrated. Philadelphia: The F. A. Davis Company, 1898. Pp. 84.

Elements of Latin. For Students of Medicine and Pharmacy. By George D. Crothers, A. M., M. D., Teacher of Latin and Greek, St. Joseph, Mo., and Hiram H. Bice, A. M., Instructor in Latin and Greek, New York. Philadelphia, New York, and Chicago: The F. A. Davis Company, 1898. Pp. xii–242.

Handbuch der Therapie innerer Krankheiten in sieben Bänden. Herausgegeben von Dr. Penzoldt, Professor in Erlangen, und Dr. R. Stintzing, Professor in Jena. Zweite theilweise umgearbeitete Auflage. Vierte Lieferung. Mit 67 Abbildungen im Text. Jena: Gustav Fischer, 1897. Pp. 255.

Transactions of the Congress of American Physicians and Surgeons. Fourth Triennial Session, held in Washington, D. C., May 4, 5, and 6, 1897.

Twenty-seventh Annual Report of the Central State Hospital of the State of Virginia, for the Fiscal Year ending September 30, 1897.

State Charities Aid Association of New York. Twenty-fifth Annual Report of the New York County Visiting Committee for Bellevue Hospital and other Public Institutions. October, 1897.

Transactions of the Luzerne County Medical Society for the Year ending December 31, 1897.

The Present Status of Preventive Means against the Spread of Tuberculosis in the Various States of the Union Critically Reviewed. By S. A. Knopf, M. D. [Reprinted from the *Journal of the American Medical Association.*]

Artificial Light in its Effect on the Eyes. By F. Park Lewis, M. D., of Buffalo. [Reprinted from the *Homœopathic Eye, Ear, and Throat Journal.*]

The Report to the Medical Society of the County of New York of its Committee on the Abuses of Medical Charity. [Reprinted from the *Medical News.*]

Deficient Excretion from Kidneys not Organically Diseased, and Some of the Diseases Peculiar to Women, and Diseases of the Skin. By L. Duncan Bulkley, M. D.

[Reprinted from the *Journal of the American Medical Association.*]

Abstract of the Proceedings of the New York State Medical Association. [Reprinted from the *Medical News.*]

The Abuse of Medical Charity. By Frederick Holme Wiggin, M. D. [Reprinted from the *Medical News.*]

The Pathology of Trichinosis. Original Observations. By Frank J. Thornbury, M. D., of Buffalo. [Reprinted from the *University Medical Magazine.*]

Wound Infection with the Bacillus Aerogenes Capsulatus. By John F. Erdmann, M. D. With Discussion by Edward K. Dunham, M. D., and Bacteriological Report by Harlow Brooks, M. D. [Reprinted from the *Medical News.*]

The Earliest Recorded Discovery of Thermal Springs. By Prosser James, M. D., of London. [Reprinted from the *Journal of Balneology and Climatology.*]

The Relation of Eye Symptoms to Urinary Excretion. A Clinical Study. By Edward W. Wright, M. D., of Brooklyn. [Reprinted from the *American Therapist.*]

Miscellany.

Tetany.—In an article on this subject in the January number of the *Archives of Pædiatrics* the editor, Dr. Floyd M. Crandall, states that the onset of the paroxysms may be preceded by sensory symptoms, but is commonly sudden and without warning. The attack frequently occurs as the child awakens, and the spasm is sometimes continuous, lasting for days or weeks.

A case which occurred in the author's practice presented the following symptoms: After uttering a suppressed stridulous sound the child would go into a convulsion, lasting for about two minutes. The face was slightly affected, the muscles about the mouth being chiefly involved. The jaw was closed and the muscles at the corners of the mouth were drawn, giving a ghastly, grinning expression. The arms were drawn to the side in a series of remitting paroxysms. The forearms were drawn across the front of the body, the wrists being strongly flexed and the fingers flexed at the metacarpo-phalangeal articulation. The legs were extended; the toes were strongly flexed and the instep was rounded over, the foot as a whole being adducted so that the toes were drawn against and across each other. The general position of the child was that of extension, but there was no opisthotonos. As the paroxysm relaxed, there were a few faintly stridulous sounds and sometimes a distinct attack of laryngismus stridulus. After the attack the child immediately recovered, and appeared to be in a perfectly normal condition. He was breast fed, but was freely fed, also, from the table. There was a history of indigestion and vomiting, with the bowels alternately relaxed and constipated. The child was decidedly rhachitic, but no craniotabes could be detected. A brisk cathartic was prescribed and strict rules regarding his feeding were laid down. During twenty-four hours the child had over twenty paroxysms. They then rapidly diminished in frequency, and soon ceased permanently.

In many cases, the author continues, the spasm is limited to the arms and legs. Occasionally the adductors of the thigh and arm are involved, so that the arms and legs are drawn forcibly together. In rare cases the muscles of the neck are involved, and occasionally those of the trunk and face. Laryngismus stridulus is a very frequent accompaniment of tetany. A peculiar suppressed sound is sometimes heard in the throat, which is due to spasm of the glottis, but it can not be strictly called laryngismus. Trismus is extremely rare in tetany, and never occurs in the early stage, as it does in tetanus.

In a true case of tetany, in the interval between the paroxysms, pressure upon the large nerve trunks and arteries of the region affected will frequently induce a paroxysm. When this result occurs it is very characteristic and is known as Trousseau's sign.

There is no loss of consciousness in tetany. The knee-jerk is exaggerated, as are also the cutaneous reflexes; the electrical reactions are usually increased. The temperature is normal.

Older patients frequently complain of pain due to the intense contraction of the hands and feet. Infants sometimes utter a suppressed cry, as if in pain, when the paroxysm is intense.

Representation of the Medical Staff on Hospital Boards.—An interesting question, says the *Lancet* for December 25th, has recently been debated in connection with a new charter which the Dundee Royal Infirmary desires to obtain. The draft charter contained the provision: "No person holding any office shall be eligible to be chosen as a director." In a previous issue the *Lancet* had expressed in general terms the opinion that a provision such as this, which would exclude the medical staff of the infirmary from the board of directors, could not be desirable in the interests either of the patients of the infirmary or of the medical profession, which are indeed identical. In some hospitals, as at Dundee, it remarks, there are two bodies—the general body (here called governors), who meet but seldom, and have only a regulative function, and a managing committee (here called directors), in whose hands all the details are placed. At Dundee the medical officers are governors, and used to be eligible for appointment as directors. Some years ago this was changed. The proposal which was under debate at the quarterly meeting of the governors on December 13th was one to render the medical officers again eligible as directors. On what grounds, asks the *Lancet*, are the physicians and surgeons excluded from the management at those hospitals (too numerous, it is sorry to say) at which the actual government is placed in the hands of the lay governors only? (1) It is said that, though they know all about the treatment of cases, they are not "men of business." Our contemporary declares that it never could understand this argument. No layman, it says, is a man of more than one business; that one he understands, on all others he is as ignorant as the doctor; and a doctor may be as acute a man of business as any other man, and often is so. (2) Then, it is said there would be "friction" between the medical and lay element; to which it is enough to reply that in many hospitals there is no difference between the status or the medical officers and that of any other governors. They are freely admitted to the same share of the management, and no friction occurs or is even thought of. The friction is caused only by the absurd idea that the medical staff are the servants of the lay governors. (3)

It is said (and was said in the debate in question) that there is no reason for placing them on the managing committee, because the latter can always ask their advice. But lay governors do not always know in what circumstances that advice is necessary; besides, men do not care to give advice, or to spend time in attending committees, when they have no vote to influence the result. (4) Another objection is almost too trivial to mention, namely, that the medical officers have not time to attend. Let them be the judges of this; if they have not time they would (like any other governor who has no time) either decline nomination or not be reappointed. (5) The idea that the medical could overpower the lay element is ridiculous. If the hospital is managed by an open board—the best form of management—the medical staff must always be in a minority; if by a committee, the proportion which the staff shall bear to the lay element can be fixed so as to produce the same result. The difficulty has been compromised at Dundee by the adoption of a resolution rendering the consulting staff eligible for election as directors, with the proviso that at no time should the number of members of the consulting staff in the directorate exceed three. The *Lancet* does not regard this compromise as altogether satisfactory. There is, in fact, it says, no reason beyond an old-world prejudice for excluding from the management of hospitals precisely those persons whose interest in their good management is the strongest, who know more about the details of the hospital than any other man about the place, and whose contributions to the hospital (even when they do not subscribe their money) are a thousand times more valuable and indispensable than the few guineas subscribed by the lay governor. Let the managers of any hospital calculate the mere cost in money which the services of the staff spare to the institution, and then let them add to this the contributions of those who are induced to subscribe by the connection of the hospital with its staff, and they will appreciate to some extent the absurdity of looking on the staff as the servants and the others as the masters. But the whole extent of the absurdity appears when it is considered that the medical officers are responsible for the successful treatment of the cases, and that this is the aim and object of all the details of the management. How absurd, then, to disqualify the staff from all voice in the administration of those details! The *Lancet's* contention seems to us perfectly justified. This journal has often had occasion to speak in the same vein. There is absolutely no excuse for the lordly attitude that is too often assumed by lay boards.

The Serum Diagnosis of Relapsing Fever.—Löventhal, of Moscow (*Deutsche medicinische Wochenschrift,* August 26, 1897; *British Medical Journal,* December 25, 1897), says that the presence of specific bacterial products in the blood during the apyretic stage of relapsing fever, as shown by Gabritschewsky, led him to make use of a serum test. The technique is easy, but, as no cultivation of the spirillum has yet been made, the test can only be applied when there are cases available from which spirilla-containing blood can be obtained. The two sorts of blood are intimately mixed together and placed in the warm incubator, a check specimen being always made. The spirilla gradually become motionless and collect together in masses. The reaction is usually complete in half an hour. If none occurs within two to two hours and a half, relapsing fever as the cause of the preceding febrile attack may be excluded. Gabritschewsky shows that the reaction is a specific one. In fourteen cases of fever due to different causes the author examined the blood, but never succeeded in getting a positive reaction where relapsing fever was absent. He has also applied the test to thirty-nine cases admitted into the relapsing pavilion, and obtained a positive reaction in thirty. Details are then given of some six cases. Löventhal has also examined the blood for prognostic purposes on eighty occasions. The nine cases giving negative results turned out to be cases of typhoid fever (five), acute pneumonia (two), influenza (one), and intermittent fever (one). A case bearing the chief characteristics of the disease—namely, (1) the characteristic duration of the attack, (2) the critical fall, (3) the greatly enlarged spleen, and (4) the marked muscular pains—is almost undoubtedly relapsing fever, even though no spirilla are found in the blood. It is in the more doubtful cases that the serum test will be of great value. A previous attack of enteric fever does not interfere with the serum test for relapsing fever, and the author cites a case in which the blood showed both reactions. Widal's reaction turned out to be negative in a number of patients with relapsing fever who had never had typhoid fever. The following conclusions are submitted: 1. A diagnosis can be made without waiting for a relapse. 2. The recognition of the first apyretic stage may be made so that antispirillum treatment may be used to ward off further attacks. 3. In abortive attacks the serum test may be very useful. 4. If the result of the test is negative, and other conditions allow of it, the patient can be sent home before the end of the fortnight, the usual observation period.

Information Wanted concerning Criminal Abortion.—Dr. C. D. Arnold, of El Reno, Oklahoma, desires answers to these questions, published in the *Oklahoma Medical Journal:*

1. Give the total number of abortions from all causes that occurred in your practice during 1897. This should include abortions which you know occurred among your lady patrons without the attention of a reputable physician. Any abortion that resulted from an obstinate disregard on the part of the woman, of a physician's advice, or from the willful commission of any act which her observation, experience, and other knowledge gave her reason to believe might induce immediately or even remotely the expulsion of the uterine contents, was criminal. (Any act, however simple, occurring in the daily vocation of a pregnant woman, if impelled by an intent, or even a desire or wish, to get rid of her pregnancy, is criminal, whether she aborts or not.) I use the word "abortion" here to mean the expulsion of the products of conception at any time during gestation to the end of the seventh month, if the abortion was unavoidable, and to full term, if criminal.
2. In how many of these abortions were the elements of criminality, to your mind, apparent?
3. In how many of these abortions, except those classed in question 2, were the elements of criminality, to your mind, probable?
4. How many of the abortions named in questions 2 and 3 were followed by puerperal septicæmia or other diseases?
5. How many deaths resulted from the abortions named in questions 2 and 3?
6. How many still-born in your practice?
7. How many infanticides?

8. How many viable children born in your practice?

9. How many cases of puerperal mania resulted from the abortions classed in questions 2 and 3?

Dr. Arnold appeals to every registered physician and licensed midwife in the United States to answer these questions. The subject of them is a most important one, and ought to receive general attention.

The Diagnosis of Cough.—Cough, says Mr. Mayo Collier, in the *Lancet* for December 25th, as a symptom or indication of some irritation in the upper or lower respiratory tract or other parts, is the commonest affection the human frame is subject to, and few medical men are taught to become sufficiently expert in the use of those special instruments requisite to properly investigate many cases that present themselves.

The author states that a long experience in the affections of the upper respiratory tract has convinced him that most of the ordinary complaints found in these regions are due to improper, abnormal, and unphysiological methods of taking in the air which is requisite to the health and vitality of the body. Catarrhal inflammation, he says, is the pathological accompaniment of this improper inspiration, and cough is its invariable companion. According to some of the older practitioners, cough is a disease and not a symptom; that it is a weakness or affection of the lungs; that a stethoscope is a fad of the rising generation, and that a laryngoscope or nasal speculum is a useless innovation.

Mr. Collier urges a more thorough examination in cases of cough and discomfort referable to the upper respiratory tract; he says that percussing the chest and listening for abnormal sounds is not sufficient, for a physician may or may not find evidence of trouble sufficient to account for the cough. Under either condition the larynx, nasal chambers, and ear should be examined in order to assure a correct diagnosis and efficient treatment. For instance, he says, if bronchial catarrh or bronchitis is discovered, it is certainly sufficient to account for the cough, but bronchial catarrh and bronchitis are not diseases in themselves, but in the great majority of cases symptoms of something else, and that is unphysiological inspiration. As an illustration of this the author cites the following case:

The wife of a well-known London consultant was wont to suffer from chronic bronchitis and winter cough for many years, which made a prolonged stay in the south of France necessary during the winter months. At his suggestion the nasal chambers were examined. Complete anterior nasal obstruction was present on both sides from very enlarged lower turbinal bodies. Deep fossæ were present on both sides of the nasal sæptum, indicating the degree of nocturnal obstruction. The galvano-cautery restored to this lady the physiological functions of her nose, which enabled her to pass the following severe winter in London without a single day's ailment from cough or bronchitis.

The throat, nasal chambers, post-nasal space, and upper larynx are in immediate and direct communication with every cranial nerve coming off from the brain or medulla oblongata, as well as the whole of the upper cervical nerves and the sympathetic. Therefore, says Mr. Collier, it is not surprising that affections of the nasal chambers involving a suspense or curtailment of their physiological functions may and do affect and involve parts most distant. For instance, a patient had suffered for two years from aphonia, and on examination an anterior nasal obstruction was found and removed. In fourteen days there was complete return of the voice. There had not been the smallest evidence of hysteria in this case, and strong faradaic currents had produced no effect.

Headache from nasal obstruction, says the author, is one of the commonest troubles met with, and is a constant association of nasal obstruction.

Cases of chorea are reported by Elsberg and others, such as Bosworth and Sallinger, and cases of epilepsy by a score of authorities, in all of which the patients were cured permanently by attending to the nasal troubles.

Sallinger, Lennox Browne, and others report cases of enuresis as a reflex symptom of nasal disease, and North goes so far as to state that he has never met with a case of neurasthenia without some nasal stenosis or catarrh. Mr. Collier remarks that he fully agrees with these authors, and goes on to say that affections of the tonsils and post-nasal space in children are always accompanied with dyspepsia, marasmus, and neurasthenia. He states further that dyspepsia is a constant accompaniment of chronic nasal stenosis.

Ocular troubles are, according to American authorities, frequently caused by, and associated with, nasal hyperæmia and obstruction.

The Ship Island Quarantine.—The *Washington Post* for January 5th publishes the following letter from Surgeon-General Wyman, of the Marine-Hospital Service:

"I have to acknowledge the receipt of your communication inclosing press articles concerning Ship Island Quarantine, with request for information upon the subject.

"So many false statements concerning this station have been made, with the evident intent of reflecting on the Marine-Hospital Service, that I avail myself of the opportunity thus offered to present the following facts:

"The charges that have been persistently made and reiterated in the press are, first, that Ship Island, Mississippi, is dangerously near the coast, being only five miles therefrom, with free communication between the quarantine and the settlements on the coast; second, that the station was moved from there by act of Congress to Chandeleur Island, and after the destruction of that island by the storm of 1893 I illegally re-established the station on Ship Island; and, third, that by reason of its proximity and through careless and faulty administration yellow fever was introduced into Mississippi last fall through this station.

"An examination of the coast charts will show that Ship Island is twelve miles from the nearest point on the shore. It is an uninhabited island, nine miles long, with the quarantine station near the eastern end and the shipping harbor at the western end. With the exception that on a clear day the shore lines and the vessels in the shipping harbor may be seen, the station is as much isolated as if it were in the Desert of Sahara. A quarantine station is as necessary for the convenience of commerce as it is for the safety of the people. There is absolutely no place for the location of a quarantine off the coast of Mississippi to which greater objections can not be made than are made to Ship Island. If a distance of twelve miles from the coast is an insuperable objection, then the quarantine stations at San Francisco and San Diego, California; Galveston and Sabine Pass, Texas; Mobile, Alabama; Key West and Fernandina, Florida; Brunswick and South Atlantic quarantine, Georgia; Cape Fear quarantine, North Carolina, and New York quarantine all would have to be moved, for they are all nearer to the coast or to populated districts than is Ship Island. This island was originally selected as a quarantine site by the national board of health in 1879. The first steps looking to the removal of the quarantine were taken immediately after the national board of health went out of existence in 1883. Captain Lay, of the Revenue-Cutter Service, and Surgeon Murray, of the Marine-Hospital Service, were directed to visit the other islands in the gulf, and reported, under date of December 19, 1883, that Ship Island was the best located and the only island that possessed the necessary advantages for a quarantine. Nevertheless, in 1888 various influences brought about the act of Congress authorizing the removal of the station to some other island. This act of Congress gave authority, but was not mandatory in its language. A board was appointed March 10, 1888, to select a site for a new quarantine station, and though their orders required them to recommend some other site than Ship Island, the board went out of their way, in the fourth paragraph of their report, inserted at the suggestion of Dr. Wilkinson, of Louisiana, to state as follows:

"'There is no evidence to warrant the belief that the presence of the national quarantine station on Ship Island is a real source of danger to the inhabitants of the gulf coast, but all testimony points absolutely to the fact that the absence of an efficient quarantine service at that place will afford a probable inlet to contagious diseases into that vicinity.'

"This report was signed by Surgeon W. H. H. Hutton, of the Marine-Hospital Service; Captain J. H. Parker, of the United States Revenue-Cutter Service; Surgeon H. R. Carter, of the Marine-Hospital Service; Dr. J. W. Mabin, of Biloxi, who represented Mississippi, and Dr. C. P. Wilkinson, of the Louisiana Board of Health. The board reported that Chandeleur Island afforded the 'next best' location, and accordingly the station was removed there in 1889, and, all told, about eighty-five thousand dollars was expended in its establishment.

"Immediately thereafter the State of Mississippi established a quarantine at the abandoned site, performed active work there inspecting and disinfecting vessels, charging the customary fees therefor, and continued to do so with some intermission until 1894, when the United States establishment was replaced on Ship Island.

"Commenting on the exposed position of Chandeleur, Surgeon Murray narrates that while he was in command of the station for a period of four months and a half five vessels got aground, two of which became total wrecks, their crews being with difficulty saved. I personally inspected Chandeleur station in 1890, and quote as follows from the annual report for 1891: 'Chandeleur Island is thirty-four miles in length, running north and south, and extremely narrow, in many places being hardly more than a stone's throw in width. It is little else than a sand reef, with slight elevation above the waters of the Gulf of Mexico. The buildings are in the marshes, on piles. One corner of the surgeon's residence rests on dry land, about thirty by a hundred feet in area, the only dry land on the premises.' It is twenty-six miles out at sea, practically in mid-Gulf, and presents all the conditions, including disaster, which furnished the theme for Cable's story of the *Lost Island.*

"Surgeon Carter, while in command of the station, informed me personally that he had learned that this island was subject to periodic overflow by tidal waves, and, as had been predicted, in October of 1893, a tremendous storm and tidal wave swept over it, carried the hospital out to sea, and drowned a hospital steward, two attendants, and two patients. It destroyed an expensive pier, on which were located the disinfecting machinery of the station, and not a vestige of the machinery has ever been recovered. It carried the steamer attached to the station high on to a sandspit, and it cost three thousand dollars to get her into water again; it injured the lighthouse to such an extent that the lighthouse establishment has been obliged to erect a new lighthouse. The medical officer in command, Dr. Guiteras, was for an hour in water up to his chest, holding on to the long grass, and barely escaped with his life. It still being the active quarantine season, and fearful that infection might be admitted following the destruction of the quarantine, Dr. Guiteras landed on Ship Island, and began at once the inspection of vessels at that point. He was ordered to continue this inspection, but the full function of this station was not exercised until the establishment had been authorized by law. There was no protest at this time against the re-establishment of the station on Ship Island, and as will be seen from the annual report of the Marine-Hospital Service for 1893, page 12, I gave a full account of the circumstances, and stated that some Congressional action would be required to legalize the establishment of a permanent station on that island, and in the appropriation bill, approved August 18, 1894, the transfer was legalized. To show that there was no protest against the re-establishment of the station, I have only to refer to a petition signed by pilots, masters of vessels, and physicians connected with the Mississippi State Board of Health, urging the re-establishment of the station on Petit Bois Island, an island still nearer to the coast than Ship Island, but more convenient to the city of Pascagoula, yet not so well adapted for a quarantine site, and before obtaining Congressional action above referred to, I had the chain of islands along the coast again examined by a senior officer of the Marine-Hospital Service and a captain of the Revenue-Cutter Service, with the result that no superior place to Ship Island could be found.

"A full statement of the fact was made by myself in a letter to the Secretary of the Treasury, dated June 16, 1894, and on the same date the then Secretary of the Treasury forwarded my letter to the chairman of the Committee on Appropriations in the Senate, calling attention to the letter, and asking for appropriation for a small hospital, ballast scows, and other items necessary for the station on Ship Island. As a matter of interest, I have caused an examination to be made of Chandeleur Island during last month, and have a report that where the surgeon's house stood there is now an inlet cut into the island, with sixteen feet of water, and that at every high tide the gulf washes entirely over the portion of the island which was used for quarantine purposes. The utter impossibility of using Chandeleur Island, I believe, is thoroughly shown by the above statements.

"Nonsensical objections to Ship Island on account of its alleged proximity to the shore having also been met, it now remains only to refer to the charges of the faulty management of the station by which it has been freely alleged by interested parties, yellow fever gained admission to the coast last fall. The motives which prompted the rumor and the methods by which the rumor has grown are very plain, and may be summed up by the statement that they have been bruited for the double purpose of diverting criticism from other stations, places, and persons, and casting discredit on a service which had been previously attacked with the result of the utter defeat of its assailants. More than a year ago a new board of health in Mississippi, influenced by one of its members, made strenuous efforts to establish a quarantine station of its own, with its positions of responsibility and importance and revenues to be derived by quarantine fees which attach to stations of that character. With entire disregard of the inconsistency of their action, this board, while claiming that Ship Island was too near, established a quarantine of their own on an adjoining island—namely, Cat Island—which is still nearer the coast, and then, on the plea of having their own quarantine, attempted to make the Government withdraw its quarantine from Ship Island. Of course, they failed and abandoned their project. But when the yellow fever appeared at Ocean Springs then came the opportunity for the expression of suspicion in the public prints and misstatements as to facts. Ship Island was declared to be within five miles of the shore, the waters between being so shallow that people could almost wade ashore. It was charged that there was free and frequent communication between the quarantine station and the neighboring coast. The medical officer in command, Dr. Smith, was declared to have so far forgotten his quarantine position as to pay a social visit on the cruiser Montgomery, which had anchored some five miles off. In fact, it may be said that the management of the station within the past three months has been under a veritable searchlight thrown by inimical hands, every effort being made to find some weakness in the administration. Every charge and every statement reflecting upon the station has been satisfactorily answered in the medical journals and in the public press of New Orleans and the towns of the coast by the able medical officer in command, Passed Assistant Surgeon A. C. Smith. Never before has a quarantine station in this country been under such close scrutiny, and in my opinion no quarantine station in existence could present a clearer record of intelligent, painstaking administration than has been developed under this searching inquiry into the management of the Ship Island quarantine. Dr. Smith has manfully met every charge and even innuendo, and there is not a scintilla of evidence to connect the station with the recent outbreak of yellow fever. Ship Island is owned entirely by the Government. As before stated, it is uninhabited. The station is isolated. No expense has been spared in its equipment of officers and employees. During the active quarantine season there are three medical officers stationed there, and regular inspections of its management are made by inspecting officers, and their reports printed. The anchorages are plainly marked out by buoys. Vessels are guarded at night. No communication is held with the station, not even the furnishing of supplies, excepting through the medium of a transfer barge, anchored a mile from the island, where the transfer vessel leaves its supplies, which, after its departure, are transferred to the island by a boat from the station. If suspicion alone is sufficient cause for its removal, it may be remarked 'there are others.'

"Already there is a turn of sentiment in this matter. I have received recent protests from pilots and merchants of Biloxi against the removal of the station from Ship Island. Petitions have also been received, if it is to be removed, to remove it to Petit Bois Island, which is still nearer the shore, and, recently, I am informed that the largest mass-meeting ever held in Biloxi declared unanimously for the station where it is, and indorsed the Marine-Hospital Service, as well as national quarantine."

A Fatal Case of Thyreoidectomy.—In the *British Medical Journal* for January 1st Mr. F. T. Paul relates the following case: The patient was a girl fifteen years old. She had a rather large parenchymatous goître which was soft but not cystic, and did not pulsate. It involved both lobes about equally. The heart was excitable, the impulse diffused, and there was a soft systolic *bruit* at the apex. The pulse was 104. There was dyspnœa on exertion. She was said to be a good useful girl at home, and, though of the thin nervous type, appeared to be quite strong enough to bear a serious operation. On December 3d the author removed the left lobe and isthmus of the gland. The operation was perfectly straightforward, and the patient left the theatre in excellent condition. All details as to dressings, drainage, etc., were carried out in the usual manner. During the night she became restless and uneasy, and an irritable cough set in with a mucous rattle in the throat. The temperature was 100°, the pulse 130, and the respirations 26 and labored. On the morning of December 4th the same condition was present; the wound was dressed and appeared perfectly healthy. In the afternoon the temperature rose to 103°, and fearing that the ether inhalation had set up bronchitis, steam and eucalyptus vapor were used, with stimulants and extra nourishment. Subsequently the restlessness, anxiety, distressed breathing, and frequency of the pulse increased, and the temperature was generally between 101° and 102° F. There was no further evidence of bronchitis. She took nourishment and stimulants well, but notwithstanding the most devoted care on the part of the house-surgeon, Dr. Badger, and the sister of the ward, the symptoms resembling those of exophthalmic goître increased in severity and the pulse became uncountable, and the patient died on December 6th, just two days and a half after the operation. Small doses of morphine were given a few times, and on each occasion were followed by a little sleep. Probably, as observed by Dr. Rodocanachi, it would have been better to have used this drug more freely. A necropsy was made. In regard to the wound, there was a want of healing action, and the fluid contained in it was of a very watery character, but there was nothing suggestive of septic changes. The divided surface of the thyreoid looked quite fresh, as though repair had not yet begun. The bases of the lungs were congested, and there was a little tenacious mucus in some of the tubes, but no general bronchitis. The heart and all the other internal organs were healthy, except the liver, which was very fatty and perfectly nodular throughout from idiopathic cirrhosis. At first the author thought this remarkable liver might be sufficient to account for the death of the patient, but he soon dismissed the idea, for, he states, on reviewing the whole circumstances he could come to no other conclusion than that the symptoms were due to the absorption of an excessive amount of thyreoid secretion, but how this came about, and what he could do to prevent it, did not at once occur to him.

Two weeks later, the author states, another case came under his observation. It was that of a woman with rather chronic exophthalmic goître. The thyreoid was only moderately enlarged, and, although exophthalmia was present, it was not marked; otherwise the symptoms were the usual ones. The patient being in fairly good condition, the author removed the right lobe of the gland without difficulty, and with practically no loss of blood; in fact, he says, the operation could not apparently have been more satisfactory. For several hours the patient was very comfortable; but during the night she became restless, and the respiration quickened. The temperature was 101° F. and the pulse 128. The next morning she was a little better, and when the dressings were changed the wound looked well. Later in the day the restlessness, anxiety, and irritable cough increased, and the pulse and respiration became more frequent. The dressings were again removed, and there was no blood stain, but the wound was discharging freely a clear watery fluid, and when the stitches were cut it was seen to be filled with the same. The author says he imagined that this fluid, or at any rate a considerable part of it, was derived from the thyreoid, and wished Dr. Abram to test it for him; but it appears that there is no chemical means of recognizing thyreoid secretion. However, he adds, acting on the belief that the patient was suffering from a sort of traumatic thyreoidism, he left the wound open, but packed it to the bottom with dry salicylic wool. The opening up of the wound was followed by a marked improvement, but only for a time. During the night—the second night after the operation—she became worse than ever; the temperature was 104.8°, the pulse almost uncountable, the respirations 36. The author removed the plug of wool, and found it saturated with watery discharge, replaced it with dry wool, and left instructions that it was to be changed as often as it became at all moist, which proved to be about every two hours. The following day, January 21st, the patient was better in every way. On January 22d the temperature was only just above normal, and continued so until convalescence was established, but the pulse and respiration went down more gradually, and there was no further anxiety about her.

In trying to discover what could be the reason, the author continues, that an operation which at first appeared to be so safe should all at once have become so uncertain, the following explanation occurred to him: In the earlier operations he handled the gland very little, tying the vessels on each side before dividing them, and ligaturing the isthmus before separating the lobe. The operations then were longer, and more blood was lost. Indeed, he adds, in exophthalmic goître the hæmorrhage was sometimes alarming, for in these cases the blood wells out of the gland as if it were a saturated sponge. Gradually he came to grasp the gland firmly in the left hand until the thyreoid arteries were secured, and in this way found that all serious bleeding was readily avoided. About the same time he gave up ligaturing the isthmus, as it appeared unnecessary. Now, in these two changes, he thinks, it was probable that the danger lay. From barely handling the gland it had come to be firmly squeezed during most of the operation, and from securely tying the isthmus it had come to be cut straight across—and it must be remembered that in enlarged thyreoids the isthmus is frequently upward of an inch in diameter. He thinks that squeezing the gland may help to liberate secretion contained in the follicles, and that the same may escape into the wound from the lymphatics in the divided capsule round the severed isthmus, the lymphatics being the normal channel for absorption of the secretion.

The author is of the opinion that the safe grasp of the gland should not be altogether given up, but believes that it may be rendered harmless by first ligating the isthmus, and exercising caution in the amount of compression. His rule now is to ligate the isthmus early in the operation, handle the gland carefully, and at once, on the barest suggestion of the train of symptoms referred to, to open up the wound, irrigate it, and fill it with dry, aseptic absorbent wool. It might be better, he suggests, to begin by severing the isthmus, and then remove the lobe from within outward; but probably if one only has in mind the danger of forcing an excess of the secretion into the blood, or allowing it to escape into a fresh wound, there is no great difficulty in avoiding it.

Mr. Paul adds that the subject appears to be a very important one, and all who undertake operations on the thyreoid for exophthalmic or soft parenchymatous goîtres should fully recognize this insidious and fatal complication.

[The reader will find an account of some French observers' study of this subject in the editorial article entitled Thyreoid Fever, published in last week's number of the *Journal*, on page 90.]

Hydrocyanic Acid as an Antidote to Chloroform.—In the *Lancet* for January 1st Mr. Frederick Hobday states that the idea of using hydrocyanic acid as an antidote to chloroform suggested itself to him when watching the different effects of the two drugs upon the respiratory tract when they were employed to produce death. He refers to fifteen cases in which the drug was successfully used in a college "canine clinic" after respiration had actually ceased. The results, he says, have certainly been in the highest degree satisfactory, so much so that when chloroform is given to animals the only antidotes ready for use in the Royal Veterinary College in London are hydrocyanic acid and liquor ammoniæ fortior. As soon as breathing ceases or becomes dangerous, he continues, artificial respiration is resorted to and a full medicinal dose of Scheele's acid placed as rapidly as possible at the back of the throat. When respiration has begun again the ammonia vapor is applied carefully to the nostrils and in the majority of cases a safe termination is the result.

The author states that the method of artificial respiration preferred is that of laying the animal in a horizontal position on its right side and pressing the ribs in a short, sharp, jerky manner, for he is of the opinion that the heart sounds are stronger and less labored when the body is placed horizontally.

With regard to the method of administration, the best way to apply the drug, says Mr. Hobday, is undoubtedly that of depositing it on the back of the tongue by means of a graduated drop-tube.

Hypodermic injection does not seem to give such good and rapid results, and the direct forcing of the vapor up the nostrils by means of bellows is decidedly dangerous from the risk of administering an overdose. Full medicinal doses are necessary, as, when an animal is under chloroform, the effect of the acid is not visible quite so quickly as when no chloroform has been used. If an overdose is given, the judicious use of the anæsthetic vapor will combat and quiet the spasm of the respiratory muscles until the excess of acid has had time to become eliminated from the system. The author states that in several cases he had opportunities to test this before experience taught the exact dose. This latter averages, in the dog and cat, about one minim of Scheele's acid for every seven or eight pounds of the animal's weight. The object must be to give just enough acid to produce the preliminary excitant effect upon the respiratory centre, and, of course, as with all antidotes, the sooner it is administered after dangerous symptoms have appeared the more likely is the result to be favorable.

Mr. Hobday is convinced that hydrocyanic acid stands foremost in the rank of agents that are likely to prove of value as antidotes.

Its use, he says, is attended with no more danger than that of strychnine—in fact, in the dog and cat with far less. Its rapidity of action is unquestionable, it is easily absorbed from any of the entrances of the body, and it has the advantage over ammonia that it does not irritate the tissues to which it is directly applied. Besides these things, not only has it an immediate effect in starting the respiratory mechanism, but when once this has begun the stimulating effect of the acid is maintained for twenty minutes or half an hour and keeps it going until the breathing resumes its normal aspect and the patient is out of danger. Mr. Hobday states that in many cases the subjects will recover by the aid of artificial respiration alone, but he is perfectly convinced from tests applied to this point, and from an extensive experience of the results obtained with other antidotes before hydrocyanic acid was tried, that the use of the acid gives an enormously higher proportion of successes. When compared with hypodermic injections of strychnine, ether, or saline solution, or the use of amyl nitrite or ammonia vapor, its effect is visibly much more rapid and powerful. Scheele's acid is of course more rapid and powerful in its action than the *British Pharmacopœia* acid and acts best when given undiluted.

The New York Academy of Medicine.—At the last regular meeting of the Section in Neurology and Psychiatry, on Thursday evening, the 20th inst., Dr. E. C. Spitzka was to read a paper on Parental Diabetes as an Ætiological Factor in Insanity, which was to be discussed by Dr. W. H. Draper, Dr. B. Sachs, Dr. E. D. Fisher, Dr. N. E. Brill, Dr. T. E. Satterthwaite, Dr. L. C. Gray, Dr. M. Einhorn, Dr. L. Weber, and others.

At the next meeting of the Section in Laryngology and Rhinology, on Wednesday evening, the 26th inst., the following papers will be read: Abscess of the Nasal Sæptum, by Dr. J. S. Waterman; and Restoration of a Deflected Nasal Sæptum, by Dr. Beaman Douglass. Dr. Freudenthal and Dr. T. P. Berens will present cases, and there will be an exhibition of specimens and new instruments.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 27th inst., Dr. H. J. Garrigues will read a paper entitled Midwives. Cases will be presented and specimens and new instruments will be exhibited.

Ichthyol in the Treatment of Affections of the Respiratory Tract.—M. Le Tanneur states in the *Gazette des hôpitaux* (*Revue médicale,* January 5th) that he has experimented with ichthyol in the following affections for the past two years: 1. Pulmonary tuberculosis. 2. Dry catarrh. 3. Purulent catarrh. 4. Bronchial dilatation with fœtid expectoration. 5. Acute bronchitis.

In the treatment of these different affections the author found the best effects from the employment of this drug. In numerous cases of tuberculosis he alternated the use of guaiacol or creosote with that of ichthyol for several months, and obtained excellent results. It was employed in the form most acceptable to the organism, that is, in capsules containing four grains each and covered with a coating which enabled the capsule to pass through the stomach into the intestine without becoming dissolved. From four to eight capsules a day were taken at meal times. The most careful observations, says the author, failed to reveal the least inconvenience in the digestive tract. In several patients, even those who showed symptoms of gastric fermentation or diarrhœa, these symptoms were diminished by the use of the ichthyol. In fifty cases of tuberculosis of all forms and degrees the amelioration was manifest in forty-two, recovery was complete in two, and in six cases only no benefit was obtained.

In the treatment of dry catarrh the dominant symptoms were the obstruction of the small bronchi by mucosities, which were difficult to expel and provoked coughing and hindered respiration, and the thickening of the mucous membrane of the bronchi, which diminished the lumina of the aerial canals and consequently also hindered respiration. In these cases the ichthyol acted on the mucous membrane as a revulsive, freed it, and gradually reduced it; the sputa became liquid and their expulsion easier. These facts encouraged the author in the employment of the drug and he continued its use in fifty cases, in which he obtained veritable success.

In purulent catarrh and in bronchial dilatation with fœtid expectoration ichthyol gave good results; the greenish expectoration became yellow, then simply mucous; the cough diminished, and the disease gradually progressed toward recovery. The author cites two cases, which he considers remarkable, of very localized bronchial dilatation subsequent to an attack of pleurisy, in which the affection was very rapidly ameliorated by this treatment. One of the patients was completely freed from the expectoration after the consecutive employment for two months of eight capsules a day.

In the acute affections of the bronchi it was in the paroxysmal forms of the cough that the ichthyol exercised the best action. The quieting effect, says the author, which generally occurred in less than three days, indicates that this drug has a very sedative action on the bronchial reflexes.

In acute bronchitis, during the period of acuity or that of development, at the time when the cough was harsh and paroxysmal, a notable diminution of the objective symptoms was observed to follow the administration of six capsules of ichthyol a day. In the latter stage the modifications in the character of the sputa were as rapid as they were manifest. From green the sputa became yellow, then white, in from two to four days at the most; finally they diminished rapidly in quantity.

Concerning the general symptoms of the patients, the author thinks that the action of ichthyol presents considerable interest. From the beginning of his experiments he observed a notable amelioration in this respect. In patients suffering from tuberculosis or catarrh, in whom the general condition was altered, there was an increase in weight of from seven to eight pounds during the first month of the treatment, in others of only four pounds, but in two thirds of the cases there was an increase in weight.

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Original Communications.

DIFFICULTIES IN DETERMINING THE CAUSES OF COMA.*

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THE proper management of cases of coma depends so largely upon our knowledge of the cause of the comatose state in each individual case that it is necessary for us to have a comprehensive knowledge of the various symptoms of the coma that results from each of the numerous causes.

At first thought, on agreeing to write this paper, I selected the title Difficulties in the Diagnosis of States of Unconsciousness, but on further reflection I found that this would include states of unconsciousness or disturbed consciousness that are more properly considered in connection with mental disease.

I shall use the word "coma" in this article to designate a more or less acute condition of insensibility from which the patient can be only partially aroused, or not aroused at all.

Coma may be gradual or sudden in its onset—complete or incomplete. Stupor or partial insensibility has been used to designate incomplete coma.

Coma due to hyperpyrexia, typhoid fever, cancer in other portions of the body than the brain, and from yellow atrophy of the liver, will not be considered in this paper, as it only infrequently happens that coma from any of these causes is likely to be mistaken for disease of the brain.

The remaining causes of coma may, for the sake of convenience, be divided into seven groups:

I. *Transient Coma.*—1. Syncope, as in fainting.

II. *Coma from Lethal Doses of Medicinal Agents.*—1. Chloral. 2. Opium. 3. Belladonna. 4. Hyoscyamus and its alkaloids. 5. Alcohol. 6. Lead.

III. *Coma from Poisons other than Medicinal Agents circulating in the Blood.*—1. Asphyxia from poisonous gases. 2. Ptomaines. 3. Uræmia. 4. Diabetes.

IV. *Convulsive States from Coma.*—1. The preeruptive stage of the exanthemata, sometimes preceded by a convulsion. 2. Reflex convulsions, such as teething, overloaded stomach, etc., in children. 3. Epilepsy. 4. Hysteria. 5. Epileptoid and apoplectoid attacks due to paretic dementia, or other organic brain disease, such as syphilis and chronic alcoholism.

V. *Voluntary Coma.*—1. Feigning.

VI. *Coma from Profound Disturbances of the Cerebral Circulation, but unattended by Organic Lesion of the Brain Substance.*—1. Shock; concussion of the brain. 2. Congestion of the brain. 3. Anæmia of the brain.

VII. *Coma from Organic Disease of the Brain.*—1. "Simple apoplexy" of the aged. 2. Traumatism of the brain. 3. Syphilis of the brain. 4. Cerebral meningitis. 5. Abscess of the brain. 6. Tumor of the brain. 7. Cerebral hæmorrhage. 8. Cerebral embolism. 9. Cerebral thrombosis.

It will be seen that the subheadings of these seven groups are quite numerous, and the effects of syphilis, alcohol, and a few others may be placed under more than one group. Were it not that many of the above causes of coma are so infrequently factors in giving rise to unconsciousness, mistakes in diagnosis would be much more frequent than they really are.

GROUP I. TRANSIENT COMA. *Syncope.*—A sudden weakening or temporary arrest of the heart's action produces anæmia of the brain and results in unconsciousness, more or less profound. The symptoms are paleness of the surface of the body, especially of the face, extreme pallor of the gums and lips, dilated pupils, surface of the body cool and covered with cold perspiration if the syncope is very pronounced; the pulse is weak, small, and rapid, or entirely absent at the wrist, and respiration weak, but not restricted unless the heart's action is seriously interfered with, when it may become slightly stertorous; face cyanotic, and a puffing of the lips takes place with each respiratory act.*

The negative symptoms are an absence of all those of a localizing nature—such as convulsions, muscular rigidity, paresis, or paralysis. The patient lies as if dead, except the organic functions are performed in the quietest possible manner. The fact that the symptoms are fleeting in character and pass away on a return of the blood to the head is an important point in the diagnosis.

It must be remembered that occasionally there are repeated attacks of syncope, the patient reviving from one and almost immediately passing into another.

In almost all cases the diagnosis will rest between syncope from temporary disturbance of the heart's action, degeneration of the heart, apoplectoid attacks of cerebral origin, and hysteria.

When the loss of consciousness is due to degeneration of the heart, there will be other evidence of cardiac degeneration, such as the probable history of previous similar attacks, the weak action of the heart, the age of the patient, the condition of the radial arteries, and the fact that the unconsciousness has come on after exertion or on coming from a low to a high altitude. During the syncopal condition there will be a tendency to cyanosis.

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* Read before the Colorado State Medical Society, at the meeting held in Denver, June 15, 16, and 17, 1897.

* In those cases in which cyanosis of the face takes place and the respiration becomes restricted, the condition has passed beyond that of simple syncope.

The slight apoplectoid attacks sometimes seen in persons suffering from atheroma of the cerebral vessels are called "fainting spells." The symptoms, as described by the friends of the patient, are very similar to those of syncope, and they, too, are fleeting in character. If, however, an attack is seen by the physician, or if an intelligent attendant or nurse is on her guard and observes closely, it will be found that there is a striking difference between the symptoms of the two conditions. In the slighter apoplectoid attacks that not infrequently precede the occlusion of an artery from thrombosis, the pallor of the face and lips is less pronounced than in syncope, and frequently the lips present a slight cyanotic tinge. Sometimes there is a slight twitching of the face muscles with a tendency to stertor of respiration for a few seconds. The symptoms are less fleeting than those of syncope, and rarely pass away immediately on lowering the head. The patient very frequently complains of headache for some time subsequently. In a few instances these slight apoplectoid attacks may recur two or three times within a few hours.

Hysterical Syncope.—Repeated attacks of syncope are always suggestive of hysteria, although, as we have seen, they may be due to other causes, and, further, a single attack of syncope may be of hysterical origin. Syncope, when due to hysteria, is not attended by intense paleness of the surface of the body, and the pulse at the wrist is neither absent nor greatly changed from the normal.

GROUP II. COMA FROM LETHAL DOSES OF MEDICINAL AGENTS. *Chloral.*—A condition of non-fatal coma may be produced by chloral, from which it is very difficult to arouse the patient, except possibly for a momentary response. In this condition the temperature is lowered, respiration is quiet, less rapid, but often fuller than normal, the pulse is weak and rather slow, the pupils are usually small.

The patient is in a profound sleep, with a lessening of the activity of all the vital functions. In toxic doses the temperature is often lowered several degrees, although a rise, with a subsequent fall to 91.2° F.,* has been observed soon after taking large quantities of chloral into the stomach; respiration is slow and full until just before dissolution, when it may be irregular and very rapid; the pulse, at first soft and slow, becomes irregular and rapid; and the pupils, small at first, dilate later. There is complete muscular relaxation, and the patient lies as if dead, save only the action of the heart and lungs prove that life is not extinct. In one case of combined opium and chloral poisoning, which came under my care some years ago, the subnormal temperature indicated chloral and the slow respiration, four per minute, opium poisoning. It was learned subsequently that the patient had taken a mixture of chloral and opium. There are no localizing symptoms from chloral coma.

Opium Poisoning.—The slow pulse, the noisy respiration, reduced to 10.8 or four beats a minute, and the contracted pupil, with a dilated condition of the capillaries of the face, are the most positive evidences of the second stage of opium poisoning. Later, just before death, the pulse becomes very rapid, the pupils next begin to dilate, and finally respiration becomes very irregular. In some cases respiration is rapid but arrhythmical before death. The temperature is practically normal except shortly before death, when it may rise. There is little danger of mistaking a case of coma from opium poisoning for coma from any of the other narcotic poisons. The contracted pupil, slow pulse, and labored respiration sometimes found to occur from a hæmorrhage at the base of the brain, especially into the lateral ventricles or into the pons, may at first lead one to suspect poisoning from opium, but the subnormal temperature from hæmorrhage into the ventricles and the sudden increase of the body heat from pontile lesions, together with localizing symptoms, would render the diagnosis quite easy.

Coma from belladonna poisoning is often preceded by delirium and convulsions. The skin, covered with a scarlet rash, is hot and dry, the pupils are dilated, the temperature is raised, the pulse rapid, and the respirations may at first be deep and slow, but before death become rapid.

The scarlet color of the skin, the delirium, and the absence of localizing symptoms serve to distinguish coma from belladonna poisoning from coma due to a brain lesion. The scarlet-colored skin, the delirium, and the excitement of the heart aid in distinguishing coma caused by belladonna from coma due to the other mydriatics, especially hyoscyamus and its alkaloids.

Alcoholic Coma.—A noisy, unconscious condition points to alcoholic coma. The patient may be so profoundly unconscious as to fail to respond to an irritant, or to attempt any response when his name is loudly called. If it is possible to arouse him, he will often strike at any one who is annoying him. The temperature is usually normal and equal on each side of the body; the pupils may be normal, contracted or dilated, and the conjunctiva is congested. We must bear in mind that a person who is intoxicated may be suffering from organic disease of the brain, either acute or chronic. In all cases of alcoholic coma a careful examination should be made, lest a brain lesion escapes detection.

Coma from lead is usually preceded by vomiting, purging, and convulsions. An analysis of the urine will reveal lead, and a blue line may be found on the gums if the metal has been taken into the stomach during a period of several days.

Sometimes it is extremely difficult to diagnosticate a condition of encephalopathy from lead, unless a careful analysis of the urine is made for this poison, or the history should point to a source by which the metal has found its entrance into the system.

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* *Lancet*, vol. i, 1874.

Other poisons may produce coma, but it is unnecessary to mention them here.

GROUP III. COMA FROM POISONS OTHER THAN MEDICINAL AGENTS CIRCULATING IN THE BLOOD. *Asphyxia from poisonous gases.*—The surroundings of the patient, such as escaping gas in a room, charred wood which has filled the room with smoke, or the fact that the sufferer has become unconscious while working in an old sewer, etc., will make the diagnosis quite easy. Lividity of the tongue and lips and embarrassed respiration are commonly found in these cases.

Coma from Ptomaines.—The cases of coma that have resulted from the ingestion of putrid food have usually been preceded by symptoms of an irritant gastro-intestinal poison, such as vomiting and diarrhœa, extending over a period of several hours to one or more days.

Coma from Uræmia.—The onset of uræmic coma is often attended by delirium or convulsions.* Albumin and tube casts in the urine suggest uræmia, but albumin is frequently found in considerable quantity in the urine in cases of cerebral hæmorrhage.

It must be borne in mind that renal disease, especially the senile form (granular disease of the kidney), occurs in about a third of the cases of cerebral hæmorrhage. The peculiar physiognomy of a person suffering from renal disease, with local œdema, equal pupils, often less profound coma than in cerebral hæmorrhage, and usually nearly normal temperature (according to Gowers it is always subnormal, except in cases in which local inflammation exists), the presence of the odor of urine on the breath, and the absence of hemiplegic symptoms occurring in a young subject are usually sufficient to enable one to diagnosticate uræmic coma. Gowers states: "Rigidity of limbs or local muscular twitching during the coma is, if constant in seat, in favor of cerebral mischief; if variable in position, it is in favor of uræmia." Some writers lay stress on the normal or subnormal temperature in uræmic coma, while others state that the temperature is usually elevated. Besides local inflammation, repeated convulsions and probably other complications will cause an elevation of the body heat in uræmic coma. On the general temperature alone little stress can be laid. The fact that the temperature is the same on the two sides of the body in coma from uræmia is an important point in excluding a unilateral brain lesion.

Coma from diabetes is usually gradual in its onset. The presence of sugar in the urine in large quantities of a comatose person would point strongly to diabetic coma, and in the absence of any localizing symptoms the diagnosis would be justified, provided, however, there was no evidence of the ingestion of any poison.

GROUP IV. CONVULSIVE STATES. — Coma ushered in by a convulsion is occasionally observed in children during the pre-eruptive stage of the exanthematous fevers, especially scarlet fever. The diagnosis would lie between the exanthematous fevers, reflex convulsions from an overloaded stomach, etc., and acute meningitis.

A positive diagnosis is not always possible during the first twenty-four hours. The temperature of comatose children during the pre-eruptive stage of scarlet fever is usually very high (104° to 105° F.), the pulse exceedingly frequent, and, as a rule, there are only one or two convulsions. The respirations are very rapid. The coma passes away as soon as the eruption makes its appearance.

Coma from teething or from an overloaded stomach is rarely attended by a temperature above 103°, although in one case of this kind, which came under my observation, the body heat in the rectum was 104°. The pulse and respirations are usually less rapid than in the exanthemata. The face is usually flushed. The coma passes away on removal of the cause.

When convulsions and coma usher in the obtrusive symptoms of meningitis the convulsions may recur every few minutes or every hour, until several have occurred. The temperature in these cases is often very high (104° or even 106° F.), but the pulse is less rapid than in scarlet fever. A high temperature, a pulse of 140 to 180, and a single convulsion, would be in favor of scarlet fever.

A moderately high temperature (103° F.), a pulse of 120, and a flushed face would indicate an overloaded stomach.

Repeated convulsions, high temperature, and a pale face should lead us to suspect meningitis. Again, I desire to repeat that a diagnosis is not always possible during the first twenty-four hours, and in some cases not during the first thirty-six hours.

Coma from Epilepsy.—If the history of the patient is known and the onset of the convulsive seizure has been witnessed, little difficulty will occur in distinguishing this from coma due to other causes. We should always bear in mind, however, that persons suffering from epilepsy are equally subject to the other causes of coma. If the patient is first seen in the comatose stage following an epileptic fit, and the physician has no knowledge of his previous history, the absence of hemiplegic symptoms and the short duration of the coma would serve to distinguish the case from one of unilateral brain lesion. On the one hand, it must be noted that in status epilepticus, a condition rarely reached without the history of the patient being known by the attendants, it may be impossible in the absence of a history to make a diagnosis between this condition and a sudden cerebral lesion without unilateral symptoms. On the other hand, it must not be forgotten that in some cases of epilepsy the convulsive seizure is followed by a weakness of one arm or leg, especially at the distal portion of the extremity. In nearly all cases of cerebral hæmorrhage attended by convulsions and following each other in rapid succession, unilateral symptoms exist, but multiple thrombi and emboli may give rise to a condition resembling that of status epilepticus without being attended by a single unilateral symptom.

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* Convulsions would exclude alcohol and opium poisoning.

Coma from Hysteria.—The subjects of this condition are usually females and the coma comes on suddenly, and is often preceded by delirium, or it may alternate with it. The face is flushed and hot, and the temperature may be elevated, especially if the delirium which has preceded it has been prolonged and noisy, and attended by much physical exertion. The pupils are either normal and respond to light, or slightly dilated and react imperfectly. The latter condition is only found in hysteria while the patient is making considerable muscular effort. The pulse is normal, except in those cases in which the patient has exhausted herself by violent muscular exertion, when it may be rapid. The urine is retained. There is no vomiting or diarrhœa; the respiration is rapid, but not stertorous.

A careful study of the symptoms will enable one to exclude the narcotic and irritant poisons. The diagnosis will rest between the subject under discussion, feigning, and some organic disease of the brain, especially cerebral congestion, meningitis, or a vascular lesion.

Feigning may be excluded by the absence of all symptoms except those that may be produced by physical exertion. (See paragraph on feigning.)

That it is not always easy to distinguish between hysterical coma and coma due to cerebral exhaustion resulting in passive congestion, the following case seen by me in consultation with Dr. Carlin and Dr. Delehanty will illustrate. Dr. Carlin has kindly written an account of the symptoms up to the time that I saw the patient, about twelve hours after the beginning of the period of unconsciousness. He says:

"The patient, a young woman about twenty-three years old, a waitress by occupation, working beyond her strength, was very anæmic, and had been weak and easily fatigued for several weeks. On a Friday morning she complained of severe headache and felt nauseated. During the day the pain in the head increased, but she continued at her work. The next day the headache was very severe and was accompanied by vomiting, so that she was compelled to take to her bed. About 5 P. M. on Saturday I was called to see her. She was semiconscious. There was no paralysis of either arms or legs; a pin thrust in any part of the body was scarcely perceived. Pupils were slightly dilated, but equal and responded feebly to light. She was immediately sent to St. Joseph's Hospital, where, in a short time, she began to have convulsive attacks. These came on at irregular intervals, varying from fifteen to thirty minutes. During the convulsive seizures she was with great difficulty kept in bed.

"The knee-jerks were almost absent, but ankle-clonus was marked and continuous in right foot, none in the left. Plantar reflexes were absent. Temperature in axilla, 100°; pulse, 118; respiration, 34.

"During the night the patient had many convulsive attacks, but when seen at 9 A. M., the next day, they had ceased and she was profoundly unconscious. Pupils widely dilated; pulse, 140 and weak; respiration, 40 and stertorous."

When I saw her, shortly after 9 A. M., she was in a state of complete coma. The eyes remained partially open, and on touching the conjunctivæ and corneæ with the finger there was no reflex action. The corneæ were covered with a dried mucus, so that it was impossible to examine the fundi with the ophthalmoscope without first removing the accumulation. The pupils were widely dilated and would not respond to light. The fundi and discs were normal, except that the vessels, especially the veins, were engorged. The conjunctivæ were injected. The face was beginning to present a cyanotic appearance. Respiration was 40 per minute and noisy, with puffing of the lips and cheeks with each respiratory movement, and mucus was oozing from the mouth. Numerous bronchial râles were audible. All the superficial reflexes were absent, and the deep were greatly exaggerated. The knee-jerks were attended by clonus; ankle-clonus was present on right side, and almost typical of organic disease of the cerebral nervous system. On tapping the tendo Achillis on the right side a clonus of the calf muscles was observed. The pulse was 140, weak, and irregular. The temperature in the axilla was 100°. A prick of a needle on any portion of the body failed to elicit any evidence of sensitiveness. There were no unilateral symptoms except right ankle-clonus, but all the voluntary muscles appeared to be completely relaxed. The feet were in the position of double foot drop. To all appearances death seemed imminent.

There was no history of the patient's having presented any hysterical symptoms previous to the evening during which the coma occurred. Notwithstanding that her illness was ushered in by typical hysterical symptoms, it did not seem possible that the patient could be in a state of hysterical coma. That some organic brain trouble existed there did not seem to be any doubt. Just what the lesion was it was not possible to decide, although a tuberculous meningitis, which had been coming on for several days and had been the cause of the headache and vomiting, seemed very probable. A bad prognosis was given.

Two hours later the patient began to show signs of returning consciousness, the pupils responded to light, the conjunctivæ were less suffused, and she would make an attempt to answer if her name was called loudly. By 6 P. M., or nine hours after, I first saw her; she was conscious and asked for something to eat. The next day I examined her again. She was then perfectly conscious, but very much prostrated, and complained of headache. The toes of both feet seemed less sensitive than normal, but this might have been due to difficulty in mental concentration. There were no areas of anæsthesia over any portion of the trunk or limbs. The last thing that she remembered was the frightful headache of which she complained before she became unconscious. After the attack, the first thing that she was able to recall was seeing her mother during the latter part of the afternoon of the day on which I first saw her. Her mind was a blank for a period of nearly twenty-four hours. I saw her two weeks later, after a rest, tonic treatment, and forced feeding. She then looked better, and said she felt well. I was unable to find any hysterical stigmata.

Such cases as the one just reported sometimes end fatally. It is probable that the condition was one of cerebral exhaustion followed by passive hyperæmia of the brain. Hysterical coma does occur, but I have been unwilling to make such a diagnosis when the patient is profoundly unconscious and the pupils fail to respond to light. In difficult cases I am unable to make a diagnosis of hysteria until I have repeatedly searched for symptoms of organic trouble and failed to find them. We must remember that hysteria and organic brain trouble are frequently associated, and that the presence of one symptom that points almost exclusively to the existence of organic disease is a more important aid in the diagnosis than the existence of a multitude of symptoms of an hysterical nature.

With reference to hysterical coma, we may conclude:

1. That the initial symptoms of a case of organic disease of the brain may be apparently purely hysterical in character.

2. The case may be purely hysterical in character in the beginning, yet, as it progresses, organic changes, or others which may prove equally intractable, may develop from exhaustion, disturbances in circulation, or from the results of metabolic processes.

Coma from Epileptoid and Apoplectoid Attacks, due to Paretic Dementia or other Organic Brain Disease, such as Syphilis and Chronic Alcoholism.—In paretic dementia the history of the patient would be the only reliable guide in the diagnosis, as the coma is similar in almost every respect to that which follows a vascular lesion. When, however, the convulsion with the resulting coma is the first apparent symptom of paretic dementia, time only would enable the physician to distinguish whether the attack was epileptic or apoplectiform in character.

Coma from syphilis and chronic alcoholism can only be diagnosticated by evidence of certain organic brain changes. Even in such cases we must be mindful that syphilitic and alcoholic subjects who are suffering from brain disease in consequence of these poisons are also liable to the other causes of coma.

(*To be concluded.*)

PHYSIOLOGICAL EXPERIMENTS WITH INTESTINAL IRRIGATION

ON PULSE TENSION, TEMPERATURE, RENAL SECRETION, AND INTESTINAL ABSORPTION.

COMPARATIVE TABLE, WITH INFUSION, HYPODERMOCLYSIS, AND ENTEROCLYSIS, ON RENAL EXCRETION.

SOME FURTHER REMARKS ON IRRIGATION.

By ROBERT COLEMAN KEMP, M. D.

In the *New York Medical Journal*, March 13, 1897, there appeared an article by me entitled Indications for the Use of the Double-current Rectal Irrigator, Solutions Employed, Temperature of the Fluid, etc. Having noted clinically the diverse effects produced by the different temperatures, I determined to undertake a few physiological experiments as to the effect of continuous intestinal irrigation on the pulse tension, temperature of the body and blood, renal secretion, and intestinal absorption. These experiments were conducted by me in the physiological laboratory of the College of Physicians and Surgeons (Columbia University) in the spring and fall of 1897.

As it was desirable to employ animals of some size, dogs were chosen for the experiments.

The irrigating fluid consisted of normal salt solution (one drachm of salt to a pint of water).

I employed one of my double-current rectal irrigators of hard rubber. The fountain syringe was attached to the central tube, and a piece of soft-rubber tubing to the curved carry-off tube. The rectal tube was of infant size. The outflow was so regulated that high irrigation was given. The method has already been described. The first series of experiments was "on the effect on pulse tension," by irrigating at different degrees of temperature. A number of experiments were performed, in order to exclude errors from an idiosyncrasy in any special animal. The average quantity of morphine injected in each dog was about a grain and a half. Ether was employed in addition, when necessary, but in as small an amount as possible. A manometer was connected with one of the femoral arteries, generally the left, and a kymograph attached. The normal blood pressure was noted in each case. This differed somewhat in the animals. Intestinal irrigation was then begun with normal saline solution, and carried on at varying temperatures. Each irrigation averaged ten to fifteen minutes. The following paragraphs give the average result of all the experiments:

Effect on Pulse Tension.—Temperature, 100° F. Slight pressure increase; in a few animals so slight that it *could hardly be detected.*

Temperature, 101°–102° F. Slight pressure increase; a trifle more than above.

Temperature, 102°–104° F. Pressure increasing slightly over above.

Temperature, 105° F. Pressure increases more markedly.

Temperature, 105°–110° F. Pressure increasing progressively with the temperature.

Temperature, 110° F. A *sudden marked* pressure increase; respiratory curve changes; respiration rapid.

Temperature, 110°–120° F. Very *marked* rise of pressure, progressively increasing; pulse very full; heart action strong. This degree of heat most markedly increases tension and stimulates the heart.

Temperature, 90°–60° F. Increase of pressure.

Temperature, 60°. Iced water (this average 36°–37° F.). Marked increase of pressure, this becoming greater as the cold increases.

Note.—After twenty to twenty-five minutes' irrigation with the lower temperatures, the *heart action becomes weaker* and the *pressure* falls.

Deductions.—I. Irrigate at 100°, 101°, 102° F.; or even to 103°–104° F., if increase of pulse *tension* is to *be avoided.*

Though *physiologically* a slight pressure increase is noted at 100°–101° F., and slightly greater at 102°–104°; clinically, in practical use, no increase in pulse tension can be detected after the employment of the above temperatures.

II. If moderate increase in pulse tension is not objectionable, a temperature of 105°–108° F. can be employed.

III. If it is desired to rapidly increase pulse tension and to stimulate the heart, irrigate with a temperature of 110° F., and increase it steadily to 120°. This is excellent in shock and allied conditions; before or during severe operation, to prevent shock, and from the commencement of chloroform anæsthesia, to prevent the sudden dilatation of the vessels.

IV. Cold is a temporary stimulant, and cold irrigation will for a time markedly increase the pulse tension; later it is a depressant, and the pressure falls. Cold should therefore be employed with caution. Clinically, it has been noted that more patients have an idiosyncrasy to cold than to heat.

The high temperatures, 110°–120° F., having thus evidently a powerful effect in increasing the pulse tension and the action of the heart, I next proceeded to make a series of experiments as regards the value of such irrigation in cases of severe hæmorrhage from accident or operation.

This second series may therefore be entitled The Effect of Irrigation on Shock from Hæmorrhage.

The animals were anæsthetized with morphine and a small amount of ether, and manometer and kymograph attached to one femoral artery. I noted the respective pulse tension in each animal, and then withdrew blood from the opposite femoral, watching the effect on the pulse tension and heart. The blood in each experiment was received in a vessel and afterward measured. My object was not to secure a definite relation between the blood withdrawn and the weight of the animal, but to create a severe condition of shock from hæmorrhage by this means, and to demonstrate clearly the great value of irrigation with hot saline of high temperature in this condition. In my endeavor to produce a nearly moribund condition I promptly killed several animals from excessive hæmorrhage. I secured, however, a very hardy Newfoundland, weighing about twenty pounds.

In this animal the normal blood pressure was 155 mm. I then bled him from the right femoral, removing about fifty cubic centimetres at a time, until five hundred and nine cubic centimetres in all had been removed; the pressure fell rapidly to 112 mm., the animal appearing moribund and nearly exsanguinated. I had already prepared a normal salt solution at 110° F., and rapidly inserted the irrigator and started the flow. The temperature of the fluid was increased to 120° as rapidly as possible. In ten minutes the pulse tension had risen to 140 mm. and was steady at that point, and the heart was acting with fair force. I found it an easy matter to demonstrate the good effects of such irrigation in severe hæmorrhage, but desired to secure an extreme case for the purpose of securing the most marked results possible.

To tabulate: Normal blood pressure, 155 mm.; blood pressure after hæmorrhage, 112 mm.; blood pressure after saline irrigation rises to 140 mm. in ten minutes.

Deduction.—Irrigate with normal saline solution, 110°–120° F., in shock from hæmorrhage.

Note.—The value of the double-current method is self-evident. The patient receives a continuous enema at the desired temperature, and the quantity of the fluid can be absolutely regulated by the operator. The advantages of continuous heat in shock or hæmorrhage are too well known to be discussed.

The effect produced on the temperature of the body and blood by continuous irrigation at various temperatures of heat or cold is of importance. My third series of experiments were in this direction, and may be entitled The Effect of Irrigation on Temperature.

A number of experiments were conducted.

The dogs, as usual, were placed under the influence of morphine and a slight amount of ether.

In some animals a clinical thermometer was inserted in the left common iliac artery—the tip of the thermometer lying flush with the wall of the abdominal aorta, but not projecting into it. The thermometer was tied firmly in this position. In these animals laparotomy, of course, was performed. In others, clinical thermometers were inserted in the left common carotid, the tip lying flush with the wall of the main vessel at the commencement of the carotid, and firmly tied in this position. All the animals were dissected later to demonstrate that no clotting occurred which could interfere with the experiments. In addition, in some animals the manometer with kymograph was attached to the femoral artery on the opposite side of the body to the iliac artery, in which the thermometer was inserted.

Incisions were made in the axillæ, and clinical thermometers inserted here to secure the average temperature of the body before irrigation, and the changes of temperature as a result of the experiments. All the animals were uncovered, and in a room of about 72° F.

Before irrigation: Axillary temperature averages 99°–99.5° F.

Temperature of the aortic blood averages 102.5°–103.5° F.

Normal pressure noted in each animal. This *varied* 125 mm. to 150 mm.

A period of about fifteen minutes was allowed to elapse before irrigation, to be certain that the anæsthetic had no influence on the temperature.

Irrigation for twenty minutes with normal saline solution at 110° F., increasing to 120°.

There was a gradual rise of temperature; axillary temperature increased 1° F.; temperature of aortic blood increased 0.5° to 0.8°. Pulse tension markedly increased.

Irrigation was then suddenly changed to cold saline solution—iced water (averaging 36°–37° F.)—and this was continued for twenty minutes, with the following result: Axillary temperature fell 2° F.; blood temperature fell 1° F. Pulse tension at first continued high, later fell, and heart became rapid and feeble.

The experiments with these two extremes of heat and cold were performed on the same animal to make the contrast more marked.

The cold irrigation overcame the increase of temperature caused by the hot irrigation and reduced both axillary and blood temperature to subnormal.

Temperatures of the irrigating fluid at 100°–105° F. had *no influence* on the temperature in twenty minutes, or at least none that I could discover after careful investigation.

Temperatures of 105°–110° F. caused slight increase of temperature in twenty minutes.

Temperatures of 90°–60° F. in twenty minutes caused no appreciable change in the animal's temperatures.

Below 60° F. there was some loss of temperature in twenty minutes, but not marked until the extreme degrees of cold were reached. There were idiosyncrasies in the animals. One hardy dog in particular seemed hardly at all affected by extremes of heat or cold, and another was especially susceptible. The above results are an average of about eighty per cent. of the experiments.

N. B.—It has been noted that dogs when covered and anæsthetized with ether have an increase of temperature from the anæsthetic when in a room of about a temperature of 72° F.

Now, dogs have no sweat glands except rudimentary ones in the paws, and this fact readily accounts for the phenomena exhibited by these animals during the heat of summer. When the animal is covered, no heat dissipation from the surface of the body is possible; ether is primarily a stimulant, and the increase of body temperature is thus readily understood. In my experiments the animals were thus purposely left uncovered, and the axillary and blood temperature carefully noted within three minutes after the thermometers were tied in the vessels. A period of ten to fifteen minutes was allowed to elapse before irrigation was begun. There was no change in temperature during this period. This corresponds to the result found by other experimenters, who have found that the temperature of the *uncovered* animal in a room at 72° F. is not increased by the ether.

Irrigation was then begun at 110° and increased to 120° F., and in ten minutes a gradual rise was noted, which had further increased at the end of twenty minutes, as stated. The effect on the temperature was thus unquestionably due to the hot saline.

The extreme cold, when prolonged, always reduced the temperature. It was at first stimulating, but later depressing.

Deductions.—I. Hot irrigation, 110°–120° F., when prolonged, increases the temperature of the body and blood. The increase of blood temperature is possibly due in part to the contiguity of the solution to the great vessels, as there does not seem to be a proportionate ratio of increase of the temperature of the body to that of the blood if due merely to effect on heat centres. In other words, the influence on the blood temperature seems to be greater in proportion than it does on that of the body. The heated blood would undoubtedly be of value in stimulating the heart, and this shows the further advantage of irrigation at a high temperature in shock and allied conditions.

If the patient's temperature is already high, it might be dangerous to irrigate with fluid at a high temperature for fear of increasing the temperature of the patient.

III. Cold irrigation reduces temperature, but is depressing after twenty to twenty-five minutes. At first, cold acts as a stimulant.

IV. Clinically, irrigation at a high temperature has proved to be excellent in shock and allied conditions, as stated above. Chapin, of this city, has employed cold enemata in the diarrhœas of children to aid in the reduction of temperature, and with success. Cold irrigation has also been employed in dysentery for this purpose with good results. Cold irrigation might be employed in sthenic cases to reduce temperature, if used with caution, for five to ten minutes. Friction of the limbs during its application would be advisable, as during the Brand bath. I should not myself care to employ at the start a temperature below 60°–70 F. I refer here to high intestinal irrigation. It would probably be safer also to use it at first only two to three minutes.

On the other hand, I have seen benefit in jaundice (duodenal) from the cold irrigation briefly employed (two quarts), or from the alternate hot and cold douche (two quarts each) for chronic constipation.

A glass Y-attachment, as suggested by Dr. John Minor, of this city, is suggested for this purpose.

Cold rectal irrigations are much safer, and I have seen iced water so applied for thirty minutes in a congestive condition of the rectum, and with great benefit. Some, however, have a marked idiosyncrasy to cold of any degree, and it should therefore be employed with caution.

Hare reports a rise of 4°–5° F. in dogs after twenty minutes' irrigation, with a temperature 115° F.; also a marked fall of temperature, practically shock, after the use of cold for twenty to thirty minutes. He does not state whether or not the animal was covered, or the temperature of the room; which facts make a considerable difference, as previously explained. My own experiments agree with his, as regards the cold, but differ in *degree,* as regards the effect of the heat on the temperature—quantitatively, not qualitatively, in the result. I believe that without doubt the prolonged irrigation has, at the high temperatures, an influence on the body temperature, even though I may be in error as regards the amount of such increase. The cold irrigation, when prolonged, is undoubtedly depressing.

My fourth series of experiments were on the effect of irrigation at different temperatures on the secretion of the kidneys, and the length of time it requires for intestinal absorption to occur. *Other conditions remaining the same,* the secretion of the kidney varies with the quantity of blood flowing through it—the greater the quantity of blood, the greater the secretion.

The blood flow through the kidneys, and therefore their secretory activity, may be affected by conditions influencing general arterial pressure. The condition of the renal circulation itself, and also its relative condition as regards the general circulation, have an important bearing on the subject. Reference is here made to *An American Text-book of Physiology,* edited by William H. Howell, in the chapter on Secretion. The internal administration of water, in addition to external application, is of great importance in many cases of renal disease, and the employment of enemata or intestinal irrigation for their influence on renal secretion in some conditions has proved of undoubted value.

A number of experiments were performed on dogs. Morphine was injected, and a small amount of ether employed. Laparotomy was performed and the ureters were catheterized. One ureter was so attached that the drops impinged on a lever, which regulated a pen so that each drop was marked on the revolving drum of a kymograph.

The drops from the other ureter were caught in a vessel. In some of the animals a manometer and kymograph were attached to one of the femoral arteries, so at the same time to secure the blood pressure.

Irrigation with normal saline solution at 100°–120° F.

Temperature, 110°–120° F. Increase of renal secretion in *ten minutes,* very *marked in twenty minutes.* Very marked increase of pulse tension. Tension rose at once.

Temperature, 100°–102° F. No increase in renal secretion noted until *twenty minutes*—then is considerable. Slight increase in tension—in some hardly noticeable.

Temperature, 102°–105° F. No increase in renal secretion until *twenty minutes.* Pulse tension slightly greater than above.

Temperature, 105°–110° F. At the higher temperatures slight increase in *ten minutes;* at the lower temperatures *no increase* until *twenty minutes.* At all the temperatures, 105°–110°, considerable increase in *twenty minutes.*

Five cubic centimetres of a five-per-cent. solution of ferrocyanide of potassium were added to about a quart of the irrigating fluid, and the return fluid was caught and employed over again several times. In other animals, repeated irrigations in each animal with a five-per-cent. solution of potassium ferrocyanide, five cubic centimetres in each quart of the saline, were employed. In these experiments the urine as it came from the ureter was tested every minute with chloride of iron. In *twenty minutes* the urine gave the Prussian-blue reaction. This was the average length of time, whether the temperature of the irrigating fluid was 100° or 120° F., or the intermediate temperatures.

Deductions.—I. In *ten minutes* irrigation at the higher temperatures, especially 110°–120° F., stimulates the kidneys to secretion by the heat and by the stimulating effect on the circulation also by the heat, blood flow through the organs.

II. In *twenty minutes,* irrigation at 100°–120° F. causes excretion from the kidneys actually through absorption from the intestines, as is shown by the potassium-ferrocyanide experiments.

III. If possible, if the temperature or pulse tension is not too high, irrigate at the higher temperatures, 110°–120° F. This seems to act in a double way: by the stimulating effect on the circulation also by the heat, and by absorption of fluid from the intestine.

The lower temperatures, 100°, 102°, 104° F., seem less powerful, and to act more through absorption. There is some increase in tension, as noted in the experiments; but in some very slight. *No increase* in secretion of urine could be discovered until *twenty minutes* had elapsed, and this was shown by the potassium ferrocyanide experiments, which gave the reaction at that time. The slight increase in tension would not seem to account for the renal secretion in this case.

For the most part, it could justly be imputed to absorption from the intestine. Clinically, irrigation at 100°, 102°, 104° F. has increased renal secretion, without any discoverable increase in pulse tension. Repeated small saline enemata have produced increased renal secretion without perceptible change in tension. I mean enemata of two to three ounces at 101° F.

IV. If it is desired to increase renal secretion without increasing pulse tension or temperature, irrigate at 100°–104° F., and at 105°–108°, if moderate increase is not objectionable.

V. Intestinal absorption from the large intestine occurs in *twenty minutes.* This has an important bearing on self-infection. Hence the value of irrigation in diarrhœas.

Note.—Dr. L. Bolton Bangs has administered enemata of iodide of potassium and secured reaction in the urine in *twenty minutes.*

VI. *Clinically.*—Hot saline irrigation is an excellent remedy in acute uræmic suppression, or in cases of renal insufficiency.

Dr. Egbert Grandin, of this city, has had excellent results from this procedure, and has been advocating it for some time past. Dr. William H. Thomson has employed it with success when other means have failed. They both report excellent results, profuse sweating and bowel action accompanying the renal secretion. Dr. Thomson has employed saline irrigation at 101–°104° F. with gratifying results recently in an obstinate case of renal insufficiency where other remedies were a failure.

Renal disease with polyuria as a symptom would seem to contraindicate this method, or that it should be cautiously used and for short periods. This statement has special reference to a case of enlarged prostate, in which prolonged irrigation was employed. It aggravated the polyuria and had to be stopped.

Note.—It will be specially noted that no reference has been made to the effect of cold irrigation on renal secretion or intestinal absorption. Some have advocated cold enemata in renal suppression; but I consider it a dangerous procedure. Experiments were made in this regard, but I purposely place them apart. Enemata of cold water at different temperatures will be absorbed from the intestines and, as in experiments with hot saline with potassium ferrocyanide, urinary reaction will occur in about twenty minutes, giving the blue with chloride of iron. On the other hand, *cold irrigation* will for a short time stimulate the circulation and increase secretion, but in about *twenty minutes* pulse tension will fall, the animal will go practically into shock, and renal secretion *cease.* We will thus have renal suppression plus shock, or be worse off than before, and the cold will aggravate the suppression.

A small quantity of cold water was employed in the enema, and the absorption easily demonstrated. Notice one experiment by enema, the other by irrigation.

Cold irrigation I would believe to be absolutely contraindicated in *renal disease*—also cold enemata.

The *cold* irrigation would practically inhibit intestinal absorption on account of the effect on the circulation at the end of twenty to twenty-five minutes. This explains the apparent contraindication.

Now physiological experiments and the clinical application of them do not always agree. In the deductions as to temperature it will be noted that irrigation at 110°–120° F. was recommended when the *pulse tension* or *temperature* was *not high.* The nature of the case, the age of the patient, and many other conditions are to be considered. I have seen excellent results in acute uræmic suppression, with considerable pulse tension and a temperature of 102° F., from a twenty-minute irrigation at 110°–115° F., with profuse diuresis, sweating, and bowel action as a result, and a fall of pulse tension and temperature.

Every case should be taken on its merits. The above-mentioned case was in a young person. If the vessels are atheromatous, a great degree of heat would be unsafe.

Being desirous of comparing the time required for renal excretion after intestinal irrigation with that after hypodermoclysis and infusion, I conducted two more series of experiments.

My fifth series was on hypodermoclysis. A dog was placed under the influence of morphine and a small amount of ether. Laparotomy was performed and the left ureter catheterized. The urine was conducted from this into a small glass vessel.

Five cubic centimetres of a five-per-cent. ferrocyanide-of-potassium solution were added to about three ounces of a normal salt solution at 104° F. This was injected with a large syringe into the tissue of the right groin. The urine was tested every fifteen seconds with chloride of iron. In three minutes and a half the Prussian-blue reaction was noted, which became marked in four minutes. *Renal secretion* slightly increased.

Deductions.—This method would thus be of value: 1. In shock. 2. In shock from hæmorrhage. 3. In cholera, to replace loss of fluid and dilute poison. 4. In acute uræmic suppression, to start up secretion and dilute poison, etc. It has so been recommended, but I believe that it should be more frequently employed, as it is a valuable adjunct.

My sixth series of experiments was on infusion. A dog was placed under the influence of morphine and a small amount of ether. Laparotomy was performed, the left ureter catheterized, and urine received in a small glass vessel. One cubic centimetre of a five-per-cent. potassium-ferrocyanide solution in three drachms of normal saline solution at 110° F. was infused slowly into the right femoral vein. The urine was tested every fifteen seconds. In a minute and a half to two minutes Prussian-blue reaction in urine with chloride of iron. *Renal* secretion slightly *increased.*

Note.—In 1891 Dr. Robert Dawbarn, of this city, conducted a series of experiments on dogs at the College of Physicians and Surgeons as regards the proper temperature of infusion. He found that saline solution at 115°–120° F. best stimulates the heart. He employs infusion of saline solution for cases of shock at this temperature and was the first to suggest and likewise employ such infusion *before severe operation* to *prevent shock.* In the course of his experiments he found infusion of sterile water (plain) killed the animals by destroying the red cells.

These experiments are here noted as of great importance in connection with infusion.

My own experiments on infusion were in regard to the length of time it takes for renal secretion to occur. Some claim it occurs as soon as a minute *after infusion.*

My experiments with *irrigation* also show that 110°–120° F. temperature best stimulates the heart.

Comparison.—Infusion: Renal secretion occurs in a minute and a half to two minutes.

Hypodermoclysis: Renal secretion occurs in three minutes and a half to four minutes.

Enteroclysis: Renal secretion occurs in twenty minutes.

On Infusion: Deductions from Dawbarn's Experiments.—I. High temperature of saline solution, 115°–120° F., is the best stimulant—(*a*) in shock; (*b*) in shock from hæmorrhage; (*c*) before severe operation, to prevent shock, or to prevent dilatation of vessels in chloroform anæsthesia.

On Infusion: Deductions from Kemp's Experiments.—I. Useful in some cases of acute uræmia to dilute the poison and cause renal secretion.

Note.—This method has been reported as successful in some cases; especially, a definite amount of blood being first withdrawn by venesection and replaced by saline solution. It was first performed abroad.

The technique of infusion is more difficult than that of the other methods, and the instruments must be perfectly sterile.

For hypodermoclysis a proper needle can not always be secured.

Irrigation with two catheters or a double-current tube is extremely simple. It acts rapidly in shock and other conditions of a like character. It is well to start the irrigation while preparing for the other methods.

SOME FURTHER OBSERVATIONS ON IRRIGATION.—On account of the length of my article I shall reduce my remarks to rather an epigrammatic style. I have found the following four tubes to practically fulfill all the clinical indications.

No. ½. Hard-rubber double-current rectal irrigator (adult size).

No. ½. Metal double-current rectal irrigator (adult size). This is described in the *Medical Record,* July 24, 1897. A rubber collar will protect the sphincter if heat is complained of. The tube is durable and can be boiled.

Soft-rubber double-current rectal irrigator, with a metal centre, also adult size. This can be bent to suit, and is excellent in cases of enlarged prostate or uterine tumor partially obstructing the rectum.

Note.—If the tube does not slip readily into the rectum, always examine to see if there is an obstruction.

Soft-rubber double-current rectal irrigator (flexible), also of adult size. This is excellent in sensitive cases, or in *infants* and *children.* For infants it can be thoroughly softened in hot water and inserted only part way. It gives a better current than the small infant tubes. At times I employ the flexible rectal tube for infants.

The flexible tubes are readily injured, especially if left in solution. The central tube is generally made of a linen catheter. I have found the flexible English catheter (such as has the stylet) much more durable. The ends do not fray as readily, nor does it crack as easily. No. 7 is a good size. It can be cut in lengths to suit, and the hard-rubber fittings will cut their own thread on it.

The flexible short tubes or colon tubes should be cleaned as follows: Unscrew the accessory cap and loosen the main cap, pushing them along the central tube to nearly its end; then withdraw the hard-rubber tip from the main outer tube, and with it about half an inch of the central linen tube; then unscrew the tip and withdraw the central tube, as in the other instruments. If the attempt were made to unscrew the flexible tube as in the other instruments, it might be easily torn through.

The flexible tubes should not be allowed to remain in any solution, except for a moment, as the centre tube readily softens and collapses. Should this occur, a wire passed through the central tube will generally remedy the difficulty.

I have found the following the best method, as the curved (lateral) tube is the larger in the calibre, and gives a better outflow:

Method of Attachment.—If the fountain syringe is attached to the central tube and the carry-off tube to the lateral tube, the current seems more forcible. A short soft-rubber tube is attached to the curved tube. By alternately pinching this and the tube of the fountain syringe the quantity of fluid entering and escaping can be regulated. Avoid pressing the tip of the instrument against the wall of the bowel, or directing the current against it, as either is irritating.

Normal saline solution is preferable to plain water, as it does not dry the mucous membrane or injure the epithelium.

Insertion of the Instrument.—1. The tube should be well lubricated and inserted with a gentle rotary movement, not forced in; this is especially the case with the hard tubes.

2. If the flow ceases, rotate the tube slightly, or withdraw it slightly and push it back. If the return tube seems plugged, attach the fountain syringe to it for an instant, and force the current in the opposite direction.

A small, hard-rubber rectal syringe (enema), which contains from half an ounce to an ounce, is excellent to clean the outflowing tube. Shut off the entering current, and then force water back into the bowel through the outflow tube. This will clean it.

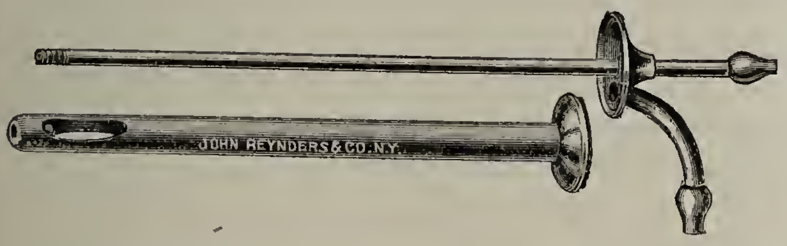
3. Insert the rectal tube about a third to half its length in prostatic cases, etc., and full length for high irrigation.

N. B.—Clinically, the rectal tube, inserted full length, and the patient with hips elevated, seems to be satisfactory, even in high irrigation, as in colitis, etc., though some prefer the colon tube.

The method by rotation, described March 13, 1897, by percussion, and succussion, proves that the caput coli can be irrigated with the short tube if proper advantage is taken of the patient's position.

Dr. Egbert Grandin states that he has seen the fluid pass through the large intestine to the caput coli and back through the bowel (large), in other words, a continuous irrigation of the entire large intestine. This was performed with saline for shock during laparotomy; the hips were elevated, and hot saline employed. The patient was emaciated and the intestinal wall extremely thin. The five-inch tube was used in this case. This is certainly an absolute ocular demonstration.

In self-irrigation of the prostate I have found the following method convenient: Hang the fountain syringe about a foot above the level of the patient's head and on the left side; attach the tube of the fountain syringe to the central tube and an inch of soft tubing to the curved tube of the irrigator. Insert the irrigator about half its length, the curved tube looking toward the perinæum. The central tube of the irrigator passes between the middle and ring fingers of the left hand; the index and middle fingers support the curved tube of the irrigator. The patient leans somewhat forward, as if to have a movement. The wrist is supported by the left buttock. The index or middle fingers respectively regulate the inflow and outflow by bending a kink in the soft tubes. The clip is thus unnecessary.



The accompanying cut shows the rectal metal irrigator ready for cleansing. The other instruments can be taken apart equally well.

I have found the Sims posture, with the *shoulders elevated,* to be excellent in prostatic cases when an attendant performs the irrigation. Prolonged irrigation is necessary in these cases.

Dr. Robert W. Taylor, in his recent work on *Sexual Disorders of the Male and Female,* advises it in a certain class of cases in combination with massage of the prostate.

I should state that Dr. Poncet, of Vichy, France, is at present experimenting with the methods described in the *New York Medical Journal* of March 13, 1897, and I believe is the first to employ the double-current method in France.

In closing, I wish to express my thanks to Professor Curtis and Professor Lee for the facilities afforded me at the physiological laboratory, and for the uniformly courteous treatment received at their hands. I have also to thank Dr. William H. Thomson, of this city, for some valuable suggestions made in regard to the experiments. I am perfectly aware that enemata of water have been used for some years to promote renal secretion and dilute the poison of disease, to alleviate shock, and reduce temperature. An obturator invented by Dr. David Prince, and reported in 1883, is shown in Tiemann's *Catalogue.* This is to retain enemata for the purposes mentioned. Intestinal irrigations have also similarly been used, and the double-current principle was employed before I was born. I know that experiments have been made in regard to intestinal absorption and the effect of irrigation on body temperature (see Hare). However, as regards the method of the insertion of thermometers in the large vessels, the experiment on hæmorrhage with continued irrigation, and the results on renal secretion produced in varying degrees by the different temperatures, so far I have not been able to find similar experiments. If they have been previously performed I offer my apologies at once. The longer I live the more ready I am to believe that "there is nothing new under the sun." I trust, however, that my efforts here published will induce others to investigate these most interesting questions and to correct the errors I may have made. Progress is the result of investigation, and necessarily of controversy.

444 Park Avenue.

A NEW OPERATION FOR BALANIC HYPOSPADIAS.

By CARL BECK, M. D.,
PROFESSOR OF SURGERY IN THE NEW YORK SCHOOL OF CLINICAL MEDICINE;
SURGEON TO ST. MARK'S HOSPITAL, ETC.

The treatment of hypospadias still belongs to the children of grief in surgery, for those who have had the opportunities of performing the operation have encountered very frequent failure. The different operative procedures now used are all more or less characterized by the attempt to create a new urethral channel and to bridge the remaining gap by the formation of suitable flaps. Too often, however, as is well known, only a portion of the suture line holds, and it is only when the wound edges are well approximated and the sutures applied with the most minute care that union of the lateral wound surfaces is accomplished. But even then, in far the greater majority of cases, a fistula remains at the junction of the urethral opening with the newly formed canal; so that often the operation must be repeated, at least in part, until a satisfactory result is obtained.

The many failures are, however, easily understood if we consider the great difficulties encountered during the after-treatment. First of all, a foreign body, a tube, must be introduced into the newly formed wound channel; and it is only with great difficulty that it can be kept *in situ.* Again, the direct contact of such decomposable elements as those of the urine, as well as the mechanical injury caused by the impact of the stream itself, interferes with an aseptic course to a degree that can easily be imagined, and the result is too often quite unsatisfactory.

The method which I now submit to the consideration of my colleagues will be found to do away with all the obstructive factors that I have named. Instead of forming a new urethra, I dissect free and extend the existing one so as to make it do the service of a new canal. Various experiments have shown me the ease with which the urethra can be extended, provided it is first well disengaged and mobilized. The detailed technique of the operation is as follows:

First, a transverse incision is made across the lower surface of the glans, which embraces the hypospadiac opening (Fig. 1, *c* to *c*). By pulling the lower wound margin (*a*) downward, the urethra can be exposed and separated from its surrounding tissue without being injured (Fig. 2). Then, after a longitudinal incision (Fig. 1, *g*) has been made alongside the median line of the groove, by dissecting the edges of the groove (Fig. 1, *b*, *b*), two flaps are to be formed and cut off in order to give a freshened surface. Now the hypospadiac orifice of the urethra is drawn forward and sutured to the initial point of these freshened margins of the groove (Fig. 3), and opposite to it another suture is introduced in the same manner. If, now, the posterior portion of the displaced urethra is slightly inverted in its longitudinal direction, the retracted margins of the integument are pulled together and united above the urethra.

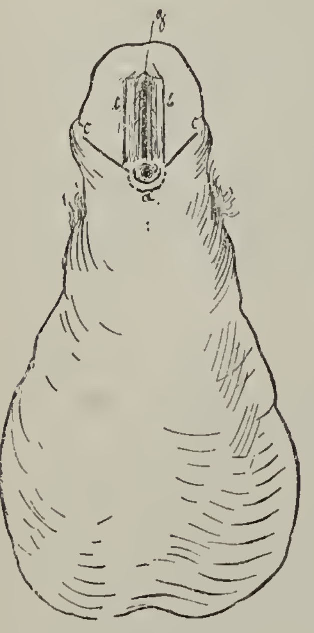


FIG. 1.

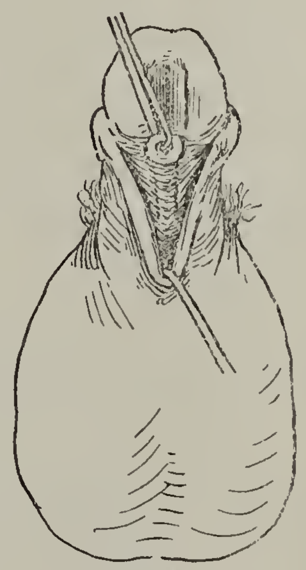


FIG. 2.

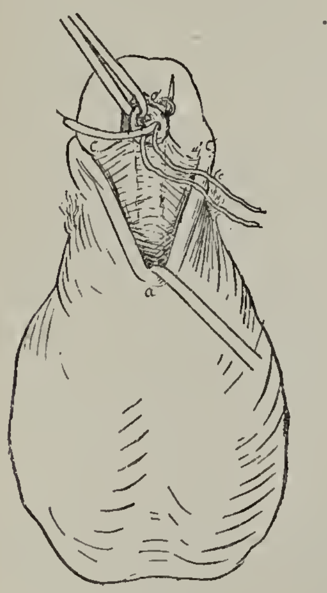


FIG. 3.

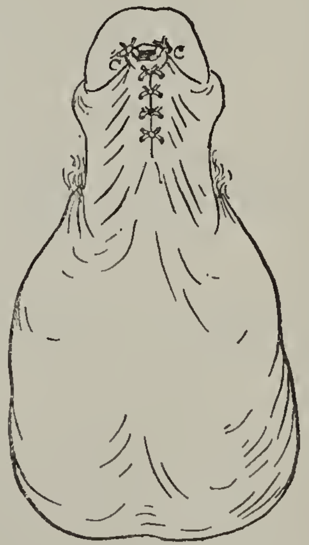


FIG. 4.

The shape of the wound, which at first was transverse (Fig. 1, *c* to *c*), now becomes longitudinal (Fig. 4), forming a support for the urethra, which is thus kept straight at the same time.

It is evident that the urine does not come into contact with the wound itself, as the internal surface of the urethra remains intact. The creation of a new channel not having been necessary, the insertion of a tube will be useless.

Up to date I have performed this operation but twice. In the case of a young man, who had submitted three times to Thiersch's operation without success, union was perfect and no reaction followed, and there was no evidence of any disturbance of the functions of either urethra or penis.

In the other case, which was that of an infant one year of age, the success was not so marked as in the former, which I attribute to the fact that the hypospadiac opening was situated far back, so that the malformation had more of a penile than of a balanic character. Still the union was perfect.

It seems to me that in all cases of pure balanic hypospadias, which, fortunately, represents by far the greater majority of the different varieties of the malformation, this method is readily practicable; and I hope that the operation will be found as valuable as it is safe and easy.

REPORT OF CASES OF APPENDICITIS.*

By WALTER LESTER CARR, M. D.

CASE I.—E. L., a man, twenty-five years of age, came under my care in 1888. He had had pneumonia in 1881, and typhoid fever in 1875. Patient was of a nervous temperament, but well developed and in good health, except for a little rude respiration of a cog-wheel type over the right lung. He consulted me for colicky pain which at times was almost unbearable. This pain would come on within an hour and a half or two hours after eating, and would radiate from the umbilicus. There was usually a distention of the colon, with pain on pressure over the ileo-cæcal region. These attacks varied in frequency and severity. After indigestible food or when the bowels were constipated, the colic and distention would last for twenty-four hours, accompanied by a range of temperature of 101° to 101.5° F. At other times the attacks were less severe and without fever. An examination failed to disclose an appreciable tumor in the region of the appendix, but it was noted that during the attacks the cæcum was always distended and rather sensitive to pressure. At such times the patient would complain of a "tearing sensation" which he could not localize except that it was low down in the abdomen. Although not clearly demonstrable, I felt that the attacks were in part occasioned by adhesions around the appendix. I urged operative treatment, but it was declined, and I was forced to use palliative measures. Dietetic management and the relief of constipation were productive of much good, as they lessened the frequency and severity of the attacks. Six years later the patient, who had been on a long railway journey, was seized with all of the acute symptoms of disease of the appendix. An operation was performed and evidences of acute inflammation were found in the appendix, and old bands of adhesions around it and connected with the gut. The patient made a good recovery.

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* Read before the Society of the Alumni of the City (Charity) Hospital, November 10, 1897.

Case II.—C. B., aged twenty-five years, came to me in November, 1894. He stated that he had begun to be troubled with distress and soreness in the stomach and bowels in 1893, a year before I saw him. The pain was generally on the left side of the lower abdomen, and most often occurred late in the day. There were no movements of the bowels with the pain. At the time of examination the bowels were regular.

"*Examination.*—Tongue covered with a yellow coating, skin and conjunctivæ clear. Abdomen distended; especially resonant over the transverse colon and on the left side under border of ribs. No local tenderness or soreness. No tumor in ileo-cæcal region or over appendix. Temperature normal." Following the use of one grain of triturated calomel and a high enema, there was a large dark movement that contained a great deal of mucus. After this evacuation the patient felt much better, but two weeks later he reported that he had had another attack of colic. He complained that when he moved the abdominal pain was a "tearing sensation" near the umbilicus. As the patient would not allow surgical interference, I was restricted to a management of diet with a fair amount of success. During two attacks the temperature was found to range between 99° and 99.5° F. The patient moved away and I did not see him for two years, when I was called in consultation and found him moribund, with every evidence of intestinal perforation and peritonitis. I was informed that the attack had been one apparently of severe colic without high temperature, until the symptoms of shock had arisen. Temperature just before death was 103.6° F. A partial autopsy disclosed pus in the abdominal cavity, a gangrenous appendix at its attachment to the cæcum, and old adhesions and thickenings.

These two patients gave somewhat similar histories. Symptoms not unlike them are observed almost daily by physicians in active practice. The first symptom I wish to call to your attention is the colic making its appearance some time after eating, but not localized in the right side over the region of the appendix.

The second symptom for your consideration is the "tearing pain," not connected, in any manner that could be learned, with the appendix, but which, as events afterward disclosed, had an undoubted association with old adhesions and bands which bound down the appendix and with it part of the intestine.

I do not discuss the relative frequency of tumors of the appendix, or the symptoms associated with the acute manifestations of disease of the appendix.

I have read these brief notes because I feel that such histories have a prognostic value, from a medical as well as from a surgical standpoint.

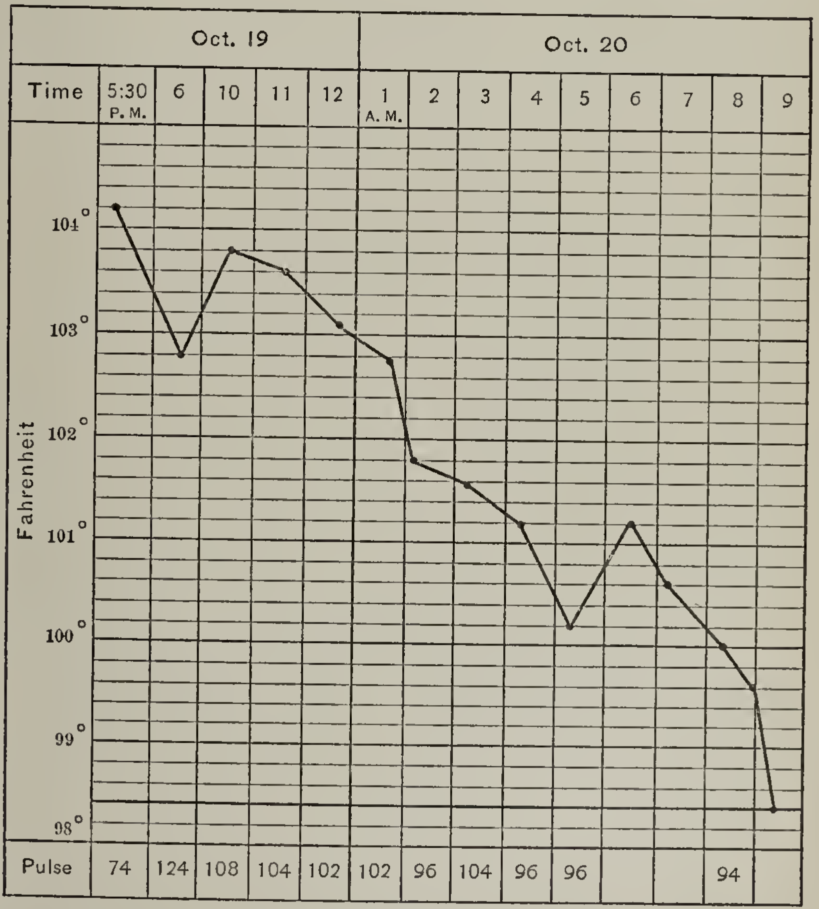
We should remember the possibility of appendicitis in every case of recurring indigestion or colic where there is pain or vomiting, or where both symptoms are present either with or without temperature elevation. We should consider the possibility of appendicitis in every case of indigestion where there is a definite colic localized in the region of the cæcum or umbilicus, whether a tumor is present or not. We should remember that typhlitis, so called, is in over ninety per cent. of the cases due to appendicular disease. We should also remember that in chronic disease of or around the appendix the commonest difficulty is an adhesion which may interfere with the vitality of the organ or cause stricture of the intestine. We should make patients understand the danger they run in chronic and relapsing appendicitis, and urge upon them the advantage of surgical interference in the intervals between the seizures, when operations may be done with extremely good results.

AN ATYPICAL CASE OF TYPHOID FEVER.

By JOSEPH A. SILVERMAN, Ph. G., M. D.,

BUTTE, MONT.

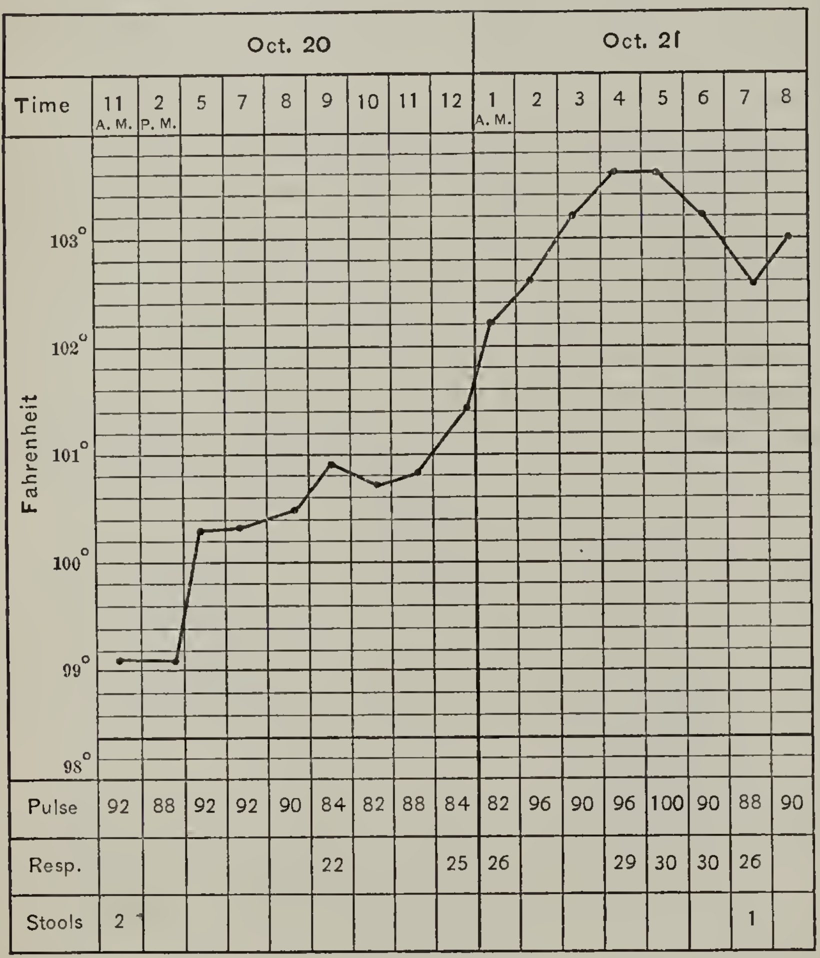
In the *New York Medical Journal* for October 16, 1897, I reported a case of Bright's disease which attacked a physician in this city. The patient fully recovered and went East for a vacation. He had excel-



No. 1.

lent health while away, and returned home Saturday evening, October 16th. On Sunday afternoon I was again called to treat him, and now wish to report his case, which to me has been very interesting:

On Saturday evening Dr. H., aged fifty-six years, returned from a trip to Boston, where he had visited



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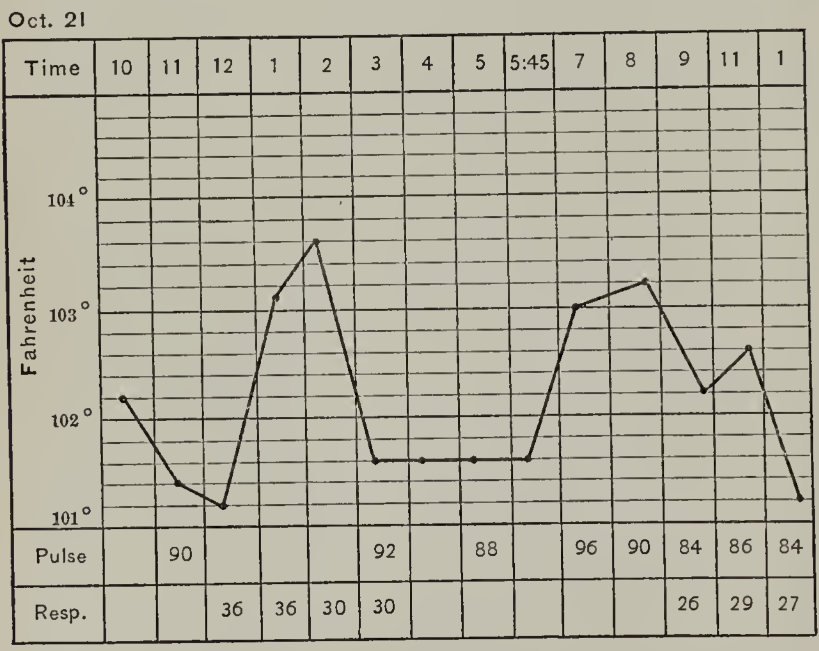
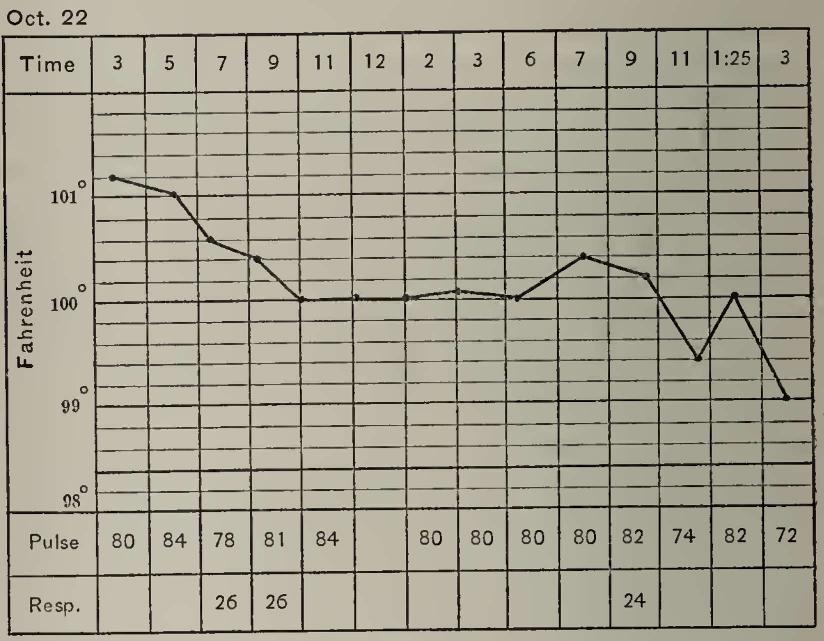
several patients with typhoid fever with his brother (also a physician). On Sunday afternoon he sent for me to relieve urticaria, with which his skin was again completely covered and from which he suffered greatly, for it was "driving him almost crazy," as he expressed



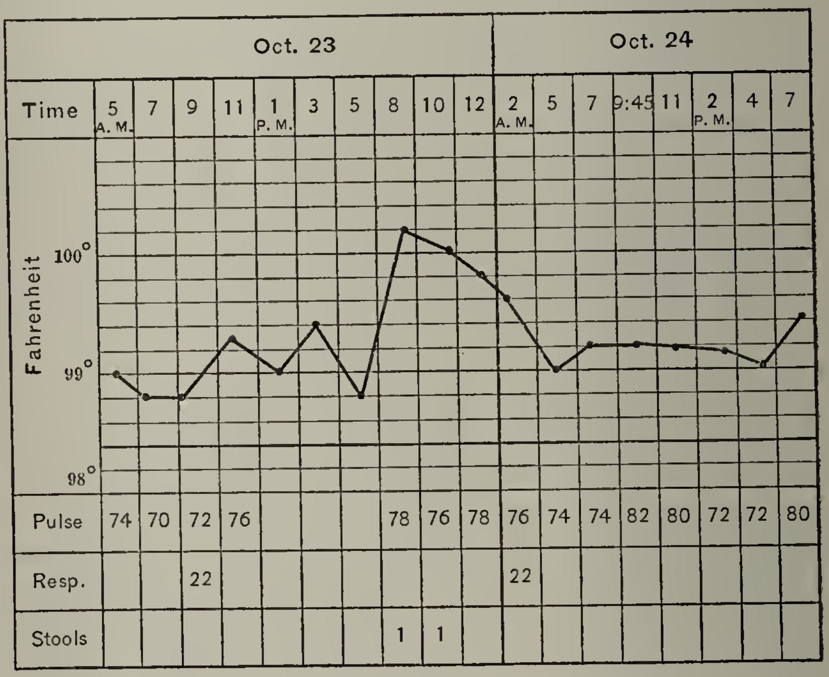
No. 3.

it. Upon examination I found his tongue coated, his temperature and pulse normal, bowels constipated, urine normal, and very slight tenderness over the right inguinal region upon pressure. Two grains of calomel with the same amount of bicarbonate of sodium were prescribed to be taken every hour, and a hot bath whenever itching of the hives became unbearable, which relieved the urticaria temporarily. The next day the patient



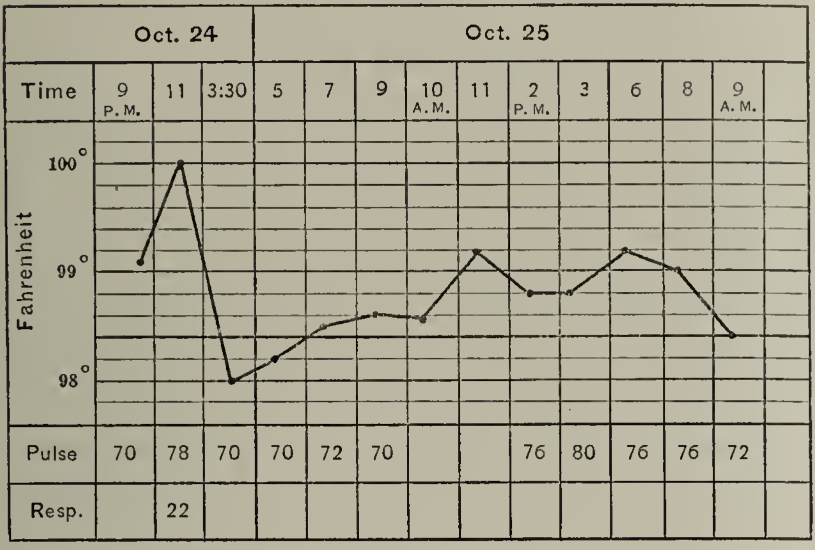
No. 4.

complained of severe pains in the lumbar region, and had also frequent attacks of urticaria, which came and went, the temperature remaining normal during these attacks. On Tuesday, October 19th, the temperature rose to 104° F., pulse 74, and temperature gradually fell to normal at nine o'clock the next morning, when the skin again became covered with hives, after which the



No. 5.

patient perspired frequently and the hives disappeared. A diagnosis of typhoid was now made and the patient put on milk diet, and eight drops of diluted hydrochloric acid prescribed for each glass of milk, together with a tablespoonful of brandy in a glass of water every hour. The bowels now became quite loose, the stools had the appearance of typhoid, the tenderness in the right inguinal region was more marked, the tongue was coated more, and sordes appeared upon the teeth. The temperature was taken every hour, and the charts, which are shown, are most interesting. On the 20th the hives disappeared and did not return until between 1.30 and 2 P. M. on the 22d, when the patient had a slight attack, and they have not returned since. On the 21st the patient's bowels did not move, and a tenth of a grain of calomel was prescribed every hour. On the 25th the patient's temperature became normal, and has remained so ever since; the tongue was clearing, the sordes had disappeared, and the tenderness was very slight; pulse 72. On October 26th the patient sat up and ate a soft-boiled egg, feeling very well.



No. 6.

The most interesting part of this case is the temperature (see charts), which seems to me to be very atypical. The quick recovery of the patient, as well as the attacks of urticaria, appear to me to make the case out of the ordinary, and will, I hope, prove interesting to my readers.

COPPER ARSENITE AND NUCLEIN SOLUTION TO ABORT TYPHOID FEVER.

WITH REPORT OF A CASE.

By JOHN AULDE, M. D.,
PHILADELPHIA.

More than nine years have passed since I first brought to the attention of the medical profession the therapeutic properties of copper arsenite, and it is now nearly seven years since I first began to make clinical observations and physiological experiments with the nuclein product with which my name is associated. Having had exceptionally favorable opportunities for clinical observation during all these years, I have gathered together a vast amount of valuable information relating to the indications and contraindications for both products, and from time to time such well-demonstrated facts as were at my command have been published for the benefit of my professional *confrères*. That my efforts have been measurably successful will be inferred from the large number of favorable reports which have appeared in confirmation of the various methods which I have advocated. Two years ago I contributed a paper to the twenty-first annual meeting of the Mississippi Valley Medical Association (Detroit, Michigan, September 7, 1895) entitled The Abortive Treatment of Typhoid Fever, in which I stated that since the autumn of 1888, when I first began the use of the copper salt, I had never failed to abort or shorten the course of typhoid fever, and with my experience in the use of nuclein solution in connection with it I felt warranted in claiming that this disease could be arrested at any stage.

By way of explanation, the following note was added in connection with this sweeping statement: "In its incipiency, and probably for the first week of an attack of typhoid fever, it is specific in character, but after this period it is usually composite; in other words, it is a mixed infection, due to the effects of the disease upon the functions of elimination." Now, if the specific character of the disease is arrested, the elevation of temperature will follow a different course, the well-known typhoid symptoms will disappear, and we shall have to deal with an ordinary fever, such as frequently arises in connection with disorders of digestion, especially in young persons and children. Fortunately, a typical case of typhoid fever has recently passed through my hands, at a time when I had the advantages of a control to compare with my treatment, and the contrast is so marked that I deem it wise and expedient to place the same on record, together with some remarks upon the objects to be sought for in controlling, averting, arresting, or aborting this disease.

F. W., aged thirty years, visited my office on October 18th, complaining of pain and some swelling in the anterior portion of the left axillary space. He said that a few evenings before he had been playing with the children, tossing them up, and he had probably injured it in that manner, but as there was a small lump he feared an abscess. An examination of the affected area discovered a slight swelling and circumscribed tenderness, but no evidences of extravasation of blood. Asked how business was going, he said that everything had been going along in good shape, but that he had been overtaxed with work, as he had been compelled to devote a portion of his evenings to business in addition to his daily attendance. Said he felt pretty well dragged out, and that after settlement day (the 20th) he intended to take several days off and recruit. At this time, although no temperature record was made, there was no apparent danger of impending illness.

Late in the afternoon of the 20th this patient reached home very much prostrated, refused supper, was thirsty, and, although there was no distinct chill, it was quite difficult for him to be kept comfortably warm. His condition at eight o'clock, when I visited him, was as follows: Temperature, 103° F.; pulse, 78 per minute, full and hard; severe headache, backache, feet felt cold, and there was marked unwillingness to move or engage in conversation. The tongue was heavily coated with a brown coating and large, with fluted edges from coming in contact with the teeth. He complained a little about the axilla paining him, and while feigning to feel well, really felt very badly, a symptom which is frequently noted in the early as well as later stages of typhoid fever. In addition to this, I made out a history of lack of appetite, more or less sleepless nights, general feeling of *malaise*, and, finally, a record of nose-bleeding on the previous Saturday (October 16th). The bowels were confined, but not constipated, as the patient had a slight movement on the preceding day, although the abdomen felt rather uncomfortable (subjectively), and on palpation there was found diffused tenderness with apparent distention.

Treatment consisted in administering one minim of the fluid extract of gelsemium, together with a fiftieth of a grain of mercury biniodide at intervals of an hour until three doses had been taken, with instructions to administer a fourth dose should the patient be awake at eleven or twelve o'clock, but not after that time.* The object of this treatment was manifest—namely, to modify the character of the pulse, restore the secretions, and stimulate the functional activity of the liver, the biniodide acting as such in addition to its powerful antiseptic properties when introduced into the stomach.

On the morning of the 21st the temperature was 102° F.; the pulse, 60 per minute, rather hard, but of fairly good volume, and the typhoid symptoms were sufficiently well marked to warrant a positive diagnosis. There was profound prostration, inability to rest comfortably in bed in any position, and too weak to feel interested in efforts looking toward his comfort. The night had been restless, and marked by almost constant muttering, with occasional demands for water, although but little was taken at a time. The bowels had been freely moved twice, the first stool being hard and dark-colored, the second straw-colored and unformed. The abdomen was tense, a deal-boardlike hardness being perceptible on slight pressure, and there was great tenderness, although no gurgling. There was no perceptible enlargement of the spleen, but the tongue was heavily coated, with a red, pointed tip. Two rose-colored spots were discovered, one near the umbilicus, the other in the right groin, about the middle of Poupart's ligament. Liquid food was taken but sparingly, owing to threatened nausea. Patient complained slightly of the pain in the axillary region, and for the first time pain was complained of at the distal extremity of the humerus, inferiorly. At this point there was considerable swelling, and to relieve the pain a hot-water bag was applied.

The treatment consisted in the administration of nuclein solution, hypodermic tablets by the mouth, each containing one minim, and at the same time one tablet of copper arsenite, containing one one-hundredth of a grain, every two hours, liquid nourishment (hot) to be given at the same intervals.

The evening temperature was 101.5° F.; the pulse, 72 per minute, regular, and of good volume. The general condition of the patient about the same as in the morning. The patient begged for permission to get out of bed, although he was unable to do so without assistance when it was necessary.

On the morning of the 22d the temperature was 100° F.; the pulse, 66 per minute, regular, but tense. In the evening the temperature was 101° F., the pulse rate 46, and about the same as in the morning. The bowels had been freely moved in the early morning, and again in the afternoon, the latter dejection being large, watery, and straw-colored. During the day the tablets had been continued at intervals of three hours, beginning at six o'clock in the morning, with instructions to discontinue after nine o'clock in the evening. To-day the patient took liquid nourishment rather better than on the previous day, but there was practically no change in his general condition, everything pointing to a regular attack of typhoid fever.

Just here I wish to make a digression to introduce the record of the control case, which came under observation on the 15th of the same month.

B. J., aged twenty-three years, was seen in bed for the first time on the evening of October 15th, with a temperature of 104° F., and a full, bounding pulse of 96 per minute. On the morning of the 16th the temperature was 103.5° F., and the pulse rate 96, but soft and regular. In the afternoon of the same day the temperature was 104° F., and the pulse rate 94. The preliminary treatment had been precisely the same as in the case already reported, but during the day (16th) the patient took a whole bottle of magnesium citrate, contrary to instructions, and had quite a number of loose evacuations from the bowels. The only diagnostic symptom in this case was the profound prostration, although he said that for some time past he had been feeling poorly. During the afternoon of the 16th there was some bleeding at the nose, but this was scarcely perceptible on the handkerchief.

At this point the patient passed from under my care and was placed in a hospital, a course which I fully indorsed, owing to the unfavorable surroundings at his boarding house. He passed through a regular course of typhoid fever, which lasted for a period of about four weeks. Cold baths formed a portion of the treatment, but, notwithstanding this, four abscesses developed. It was a mere coincidence, however, which resulted in this patient having an abscess in the axillary region and another at the elbow, as threatened in the case of the first patient.

Referring now to the first patient: On the morning of the 23d the temperature was normal, and the pulse rate 50 a minute. There was a marked improvement in the condition of the patient, and I had every reason to believe that the specific character of the disease had been arrested; in other words, unless there occurred a relapse we should have no more typhoid fever, a result which I was fully warranted in anticipating in view of my previous experience. In the evening the temperature was 101.5° F. and the pulse rate 72 a minute, and an apparently normal movement of the bowels had taken place during the afternoon. The treatment had been continued as previously stated—namely, two tablets every three hours—one of each together.

The following record shows the variations in the temperature and pulse following arrest of the specific infection:

October 24th.—Morning temperature, 98.6° F.; pulse, 56; evening temperature, 100°; pulse, 56.

25th.—Morning temperature, 98.6° F.; pulse, 56.

26th.—Morning temperature, 99.5° F.; pulse, 64; evening temperature, 99.2°; pulse, 64.

27th.—Morning temperature, 99.2° F.; pulse, 54.

28th.—Morning temperature, 98.6° F.; pulse, 56.

29th.—Morning temperature, 100° F.; pulse, 72.

30th.—Morning temperature, 99.4° F.; pulse, 64.

31st.—Morning temperature, 98.6° F.; pulse, 72.

On October 25th the prostration was so great that strychnine arsenite was added to the treatment, a thirty-second of a grain every three hours for that day, and on the 26th mercury was given alone, a fiftieth of a grain, every two hours. The object of this was to stimulate the liver and act as an antiseptic for the stomach contents, which seemed to be demanded on account of the profuse accumulation of mucus. Instructions were given to resume the original treatment on the following day. These directions were subsequently changed, since, at the time of my visit, the threatened abscesses were advancing. I judged that they were responsible for the rise in temperature on that day and the day previous. Accordingly, I advised the nuclein solution to be continued, and for the copper salt substituted calcium sulphide, a tenth of a grain, at the same intervals. On the 28th, owing to the discomfort in the bowels, which had not been moved since the morning of the 27th, I added to the treatment fifteen grains of phosphate of sodium every two hours. On the 29th the bowels were moved freely twice, the pain from the abscesses had subsided, and the copper arsenite and nuclein solution were resumed every three hours. However, on the 30th, the abscess at the elbow became very painful, when the treatment was changed to mercury biniodide, one one-hundredth of a grain, and calcium sulphide, a tenth of a grain, every two hours, with moist heat applied to the arm, and this treatment was continued during the following day.

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* For several days the patient was seen twice daily—from ten to eleven o'clock in the forenoon, and again about eight o'clock in the vening.

There was but little change in the condition of the patient from day to day, although improvement was perceptible, so that on the 5th of November he was able to be up and dressed. On the 6th he went out and visited his office, and when seen on the following day did not appear to have suffered any from the exertion. Poulticing the arm was advised, and for medicinal treatment he had nuclein solution, one minim, and calcium sulphide, a tenth of a grain, together, five times daily. The poulticing was continued interruptedly, as the patient visited his office daily. On the 12th he called at the office, when the abscess was opened and a large quantity of pus and blood evacuated. At this time the threatened abscess in the axillary region showed a disposition to subside.

Remarks.—In making this report I have taken particular care to cover all the details, because of their importance in aiding the reader to arrive at a correct estimate of the conditions present. Ordinarily, the diagnosis of a typical case of uncomplicated typhoid fever is a comparatively simple matter, but when the claim is put forward that such a case can be aborted within forty-eight hours and the specific character of the disease caused to disappear, then the reader's doubts are changed into convictions of the utter impossibility of accomplishing such results. This is not, however, an isolated instance where typhoid fever has been aborted, as I have quite a number of similar cases treated substantially in the same manner, some with complications, with equally satisfactory results.*

With a knowledge of the physiological properties of the two remedies employed in the treatment of this case, the reader who peruses the foregoing report in a thoughtful manner, candidly weighing the evidence as shown by the variations in temperature, must be convinced that the arrest of the disease was brought about by the influence of these drugs upon the blood and upon the secretions, rendering them inimical to the welfare of the special micro-organism associated with typhoid fever. The reader will take particular notice that the nuclein solution was continued almost uninterruptedly, the object being to so modify the functional activity of the leucocytes that there would be no opportunity for the development of spores; hence, no likelihood of a relapse. The merits of the copper salt in relieving disorders affecting the mucous membrane of the small intestine are so well known that any attempt to elaborate upon that subject would be a work of supererogation, but the stimulating effect of nuclein upon metabolic changes is not so well known; hence, the doubts that will arise, the difficulties that will be imagined, and the denials that will be forthcoming. But there is no need for doubts; the difficulties in the way must disappear, because there can be no denials, provided a clinical test is decided upon. The secret of success in the treatment of typhoid fever does not lie in our ability to introduce into the system remedies which shall destroy the offending micro-organism, but, on the contrary, we should endeavor to increase the resistance of the body cells to invasions from these mephitic bodies, and this can best be accomplished by maintaining as nearly as possible the normal condition of the "defensive proteids," of which nuclein is the chief. Persons who are in the condition known as "run down" are those who are most susceptible to typhoid and other diseases, while those who maintain a healthy condition of the primary and secondary assimilation escape infection simply because the white corpuscles are properly nourished with suitable pabulum, so that the body cells are fortified against infection.

Note.—Since the foregoing paper was written a third case of typhoid fever has come under observation, and in view of its prompt arrest by the treatment recommended, the case is worthy of being reported.

Miss M., aged seventeen, weight about a hundred and thirty pounds, is a sister of the patient who was sent to the hospital. During his illness she visited him and at different times kissed him on the mouth. The brother was taken sick on the 15th of October, entered the hospital on the 17th, and was dismissed therefrom on the 25th of November, the entire illness covering a period of forty days.

About the 16th of November the sister was sent from Philadelphia to western New York to attend school. A few days after her arrival there she began to notice chilly sensations, especially toward evening, and on the 23d went to bed in the afternoon. She remained in bed the next day and also on Thanksgiving Day (the 25th) until late in the afternoon, when she was placed aboard of the train for Philadelphia and the Pullman porter instructed in regard to the administration of medicines. She traveled a distance of about three hundred miles, and was seen for the first time on the morning of the 26th between ten and eleven o'clock, at which time the temperature was 100·5° F., and the pulse 120 per minute. There had been nosebleed, and the patient had been thus summarily dismissed from the school owing to the fact that typhoid fever was then endemic, five or six cases being then under treatment or convalescent. However, she was not told that she had typhoid fever, but simply that it might be typhoid fever, as she had a rising temperature and other unfavorable symptoms. At the first visit, even with the suspicious history and the symptoms, the diagnosis of typhoid fever would not have been warranted, because I had no temperature record. However, the medicines (tablets of copper arsenite, a hundredth of a grain, and tablets of nuclein solution, hypodermic, containing each one minim) were given to the mother, with instructions to administer one of each together every two hours, nourishment to be liquids only and no cold drinks under any circumstances.

My chagrin can well be imagined when at my visit the following day it was found that only one dose of medicine had been taken, the little sister, five or six years of age, having found the bottles and converted both kinds of tablets into a powder and mixed them together. This, however, proved a blessing in disguise, since it enabled me to determine the rise in temperature, and with the other symptoms warranted a diagnosis of typhoid fever. The temperature at this visit (eleven o'clock A. M.) was 101·8° F. and the pulse rate 90. Special emphasis was then laid upon the necessity for giving the medicine faithfully—every two hours—the same diet being continued.

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* I neglected to mention that on the 29th there appeared over the abdomen of this patient a full crop of the characteristic rose-colored spots, but they all disappeared again in the course of a couple of days.

November 28th.—At 8 30 A. M. the temperature was 98·6° F. and pulse rate 90 per minute and slightly arrhythmic. A second visit was made late this day, principally for the purpose of determining the temperature range, when it was found that it had risen to 100° F. and the pulse rate to 108. Early in the day the bowels were moved; the first portion of the movement was dark, the latter yellow. It was a very large movement, and, as a marked sallowness had overspread the skin, tablets of mercury biniodide, each containing one one-hundredth of a grain, were substituted for the copper salt, the nuclein tablets being continued as before.

29th.—At 11.30 the temperature was 98·6° F. and the pulse rate 70 per minute. Early in the morning the bowels were moved freely and again in the afternoon, both movements being yellow or straw-colored, and directions were then given to resume the copper arsenite and nuclein tablets at the regular intervals on the following day.

30th.—At the usual hour the temperature was 97·6° F. and pulse rate 72, and this notwithstanding that the patient had been permitted to have a chop for breakfast with dipped toast and hot milk. Treatment continued.

December 1st.—The temperature was 97° F. and pulse rate 72. The bowels were moved freely in the morning, apparently normal, but in the afternoon another very large movement occurred, the stool being unformed, but not watery.

In view of the fact that the temperature was low, together with a slow pulse rate, and all dangers of relapse of the disease having disappeared, treatment from that time forward was changed to nuclein solution, one minim, and strychnine arsenite, a thirty-second of a grain every two hours.

2d.—The temperature was 97° F. and the pulse rate 66, the diet being changed to solid and semisolid food at frequent intervals.

For several days previous blood stains had been noticed on the handkerchief, but to-day there was free bleeding at the nose, estimated at from one to two ounces. Treatment continued as before.

3d.—The temperature had increased to 97 5° F., pulse rate 60, and the patient appeared to be making satisfactory progress. A final visit was made on December 5th, when the temperature was 97.5° F. and pulse rate 72 per minute, of good volume and regular, when she was permitted to get up and dress, but cautioned to avoid excess in eating and not to expose herself to unfavorable climatic influences.

This supplementary report is merely a repetition of my previous experiences in treating this hitherto formidable malady, and fully confirms the statement that I have made—namely, that typhoid fever can be aborted, meaning by this that the specific character of the infection can be arrested.

1513 ARCH STREET.

DIAPHRAGMATIC RHEUMATISM.

REPORT OF A CASE.

By HUGH W. CROUSE, M. D.,
ROCKPORT, TEXAS.

ON August 7th I was called in consultation to see L. P., aged twenty years, a strong-looking youth, summer visitor.

Family History.—His mother died of pulmonary tuberculosis.

Past History.—He has suffered the last few months with pains in the lower præcordial and upper epigastric regions, rather to the right side; otherwise he has been healthy.

Present history, as given by his physician and self, was as follows: Pains of a constant dull nature, at times lancinating, stabbing, in a space inclosed by lines drawn showing the upper half of the epigastric region and the lower præcordial; referred at times to the spine in the mid-dorsal region.

Pains were especially marked on moving in bed; no headache; appetite variable; abdomen rigid and tender, and hepatic region tender. Illness began on the night of the 6th, rather suddenly, with but slight malaise previous to the attack. The day being warm, he had perspired very freely; he had not slept during the night on account of pain; he was constipated.

Physical Examination.—Pulse, 78; temperature, normal; respiration, 38; tongue, dirty yellowish-gray, furred from tip to base; skin, cool, slightly murky. Lungs clear; vocal fremitus and vesicular murmur normal, except at base, where they were both rather deficient; no râles or crepitation. Heart normal, with exception of slight click heard with second sound over aortic area; seemingly no hypertrophy. Abdomen intensely rigid; boardlike feeling over entire area; chloroformed to complete anæsthesia; rigidity remained under anæsthesia. Urine normal in appearance. Spine not tender, but slight tenderness at the sides of the vertebræ in the upper dorsal region, from the second to the sixth dorsal, seemingly in the muscles. Superficial and deep reflexes normal. Face drawn; pupils dilated; legs smartly flexed on the abdomen, and he complained of pain on extending them. Abdominal tenderness not increased on deep pressure. Diagnosis, probable colonic obstruction of fæcal nature. The treatment advised was: As he had been given salines, repeated high enemas of glycerin, alternated with a sulphate-of-magnesium saturated solution; salts continued by the mouth in heaping teaspoonful as a saturated solution every half hour. Abdominal massage, restricted diet, morphine hypodermically to reduce the excruciating pains which appeared at times, as other anodynes had been tried with no effect.

Failing in eighteen hours to secure action, a hypodermic injection of two drachms of sterilized filtered sulphate-of-magnesium solution was given. Vomiting occurred three to four times during the day, August 8th, thought to be induced by salts by the mouth, as it only appeared when salines were given. Seven hours after the saline injection several watery actions occurred; abdominal rigidity was not reduced; calomel in one-grain doses every hour was commenced. After ten were given, a bilious action accompanied the return of high enema; abdominal rigidity was reduced, with subsequent actions markedly so; pain in the epigastric region not so severe; morphine was needed only at times in small amounts. On August 10th, examination showed by combined auscultatory percussion with hammer and stethoscope—abdominal rigidity having subsided sufficiently to make such an examination of worth—that the liver was hypertrophied, being three fingers and a half in breadth below the costal margin in the nipple line, also tender. The tongue was still coated as on the 7th; pulse, 96; temperature still running from 99.4° to 100°; respiration, 36. Conjunctiva clear; lungs and heart as on the 7th. The kidneys were palpated bimanually in Israel's line, but nothing abnormal was found. The pain was more in the right shoulder, but referred at times to the left. Taking the obstructive symptoms, abdominal rigidity, pains under the shoulder, præcordial, or rather combined epigastric, præcordial, and hepatic pains, yellowish-white furred tongue, enlarged liver, into consideration, with the known frequency of hepatic abscess in this region, with vague symptoms, abscess was feared of the posterior surface of the liver. Treatment advised: Ten-per-cent. iodide-of-mercury ointment applied over the liver twice a day; four grains of blue mass night and morning, followed by salines in the morning; calcium sulphate, one grain three times a day. Diet, milk, broths, and eggs; opiates as minute as possible when unable to do without them.

August 11th.—Symptoms all improving.

August 12th.—Still improving, until in the evening, when, on arousing from sleep, he was taken with intense spasmodic pains in the epigastric lower præcordial region. Two attacks, each fifteen to twenty minutes in duration, of a convulsive nature. I was present at the latter part of the second attack, and found the following symptoms: Patient screaming; pupils widely dilated; Hippocratic features; risus sardonicus. Respiration rapid and shallow; head drawn back; pulse, 38 and irregular; limbs flexed on the abdomen; hands grasping the chest in the region of pain; lower limbs cold; cold sweat on the upper extremities. Whisky, glonoin, morphine, and atropine were quickly injected, and hot irons applied to the lower extremities. The patient gradually rallied, and in a half hour was able to converse weakly. He complained of a dead feeling in his feet and legs, accompanied by tingling sensation. He soon dropped to sleep.

From the symptoms noted in this attack it was decided to place him on antirrheumatic treatment, as follows: Sodium salicylate, fifteen grains every three hours, and the following: Tincture of passiflora, two drachms; tincture of bryonia, forty-eight drops; tincture of macrotis, a drachm and a half; hyoscyamine (pure), one one-hundredth of a grain; water, sufficient to make two ounces. Sig.: A teaspoonful every hour to hyoscyamine effects. Mercurials continued. Improvement gradually took place; pain, abdominal rigidity, and respiration, each subsided, and this case, veiled as it had been, cleared under the antirrheumatic treatment, demonstrating it to be from the symptoms and answer to treatment one of acute diaphragmatic rheumatism, accompanied by acute hepatic congestion.

The reasons for such an assumption are as follows: Abdominal rigidity; lack of rise of temperature; normal pulse mainly; orthopnœa; constant dull pain, with increase on moving, spasmodic at times; respiration mainly continued by upper ribs; want of power to strain, so as to aid the emptying of bladder and intestines; pains darting, stabbing, from spine to upper epigastric region; deep pressure not inducing more pain than superficial; pains slight when quiet, increased when muscles were put on the stretch by moving. History of, for three months, pains at times in the upper epigastric and lower præcordial region.

The differential diagnosis of such a case is as follows: From peritonitis, lack of increased pain on deep pressure and peritonitic countenance; from diaphragmatic pleurisy, lack of nausea, vomiting, dry cough, occasional jaundice, delirium, hiccough, paroxysmal cough, and friction sounds; from pericarditis, lack of irregular pulse, friction sounds, fever, signs of effusion, dry, irritative cough, pain increased by pressure, prominent and large neck veins, œdematous extremities, heart failing, wavy, feeble heart impulse, and muffled sounds; from endocarditis, by lack of blowing sound, excited heart action; from myocarditis, by lack of centralization of pain in cardiac region—but from this latter it would be difficult to diagnosticate, except the case answered to antirrheumatic treatment, owing to frequent absence of any pathognomonic signs in myocarditis; from acute hepatitis alone, the presence of spasmodic pains and appearance of eyes and lack of fever; from acute anteropolyomyelitis, the absence of paralysis in lower extremities, reflexes in the normal state in this case, and normal skin sensations, although the pupil symptoms would indicate dorsal irritation to cord; from acute intercostal neuralgia, mainly from lack of sternal, lateral, and vertebral tender points; from hepatic abscess, lack of developing septic symptoms, fatty stool, etc. These are the main conditions one might confound with rheumatism of the diaphragm. Were I, reviewing the case retrospectively, to have a patient with rheumatism of the diaphragm again, I should strap the chest with adhesive straps, as in diaphragmatic pleurisy, in conjunction with the treatment pursued in the latter part of attention to this case.

The combination of acute hepatic congestion and diaphragmatic rheumatism with the previously mentioned symptoms led to the errors in the diagnosis in this case. The rarity of this trouble is proved by the lack of its mention in standard text-books, whether special or general, and for this reason I have reported it.

Strange to say, the father states that the mother of this boy had such an attack, lasting three weeks, from which she never fully recovered, and subsequently died of pulmonary tuberculosis. The patient continued the use of sodium salicylate and the bryonia combination, less hyoscyamine, with judicious diet and exercise, and was advised to visit one of our spas famous in rheumatic troubles—the Buffalo Lithia Springs, Virginia.

I should like to have the case commented on, and, if the final diagnosis was incorrect, to know the reasons why.

THE EXTRACTION OF TEETH.

By M. G. JENISON, M. D.,
SAN ANTONIO, CAL.

Probably no operation, in minor surgery at least, has been more universally dreaded than the extraction of a tooth. The pain, though brief, is usually intense, and coupled with it is the great dread of the proceeding, which adds a mental shock to the one which really exists. When a person expects a severe pain he almost always gets it; while, on the other hand, if one can be thoroughly convinced that an operation is not going to hurt, it is often the case that no pain is observed.

The loss of a tooth is usually the result of the transgression of natural laws, which in this, as in other conditions, has the penalty attached to it. In other words, the extraction of a tooth is unnecessary with few exceptions. It is generally brought about by neglect or carelessness on the part of the patient, but, as it is an operation that will undoubtedly be called for, it is well to consider some of the circumstances and conditions surrounding it.

There should be in each jaw sixteen teeth, their main support being a spongy bone known as the alveolar process. This forms a ridge on the maxilla, or jawbone proper, in which are formed the sockets for the roots of the teeth. Lining these sockets and covering the roots of the teeth is a delicate membrane, which affords some nourishment to the parts, and also acts as cushions for the teeth in mastication. Covering this bony ridge and extending down on the neck of the tooth is the dense gum tissue well supplied with blood-vessels and nerves.

The roots of the six anterior teeth are always single and are cone-shaped, or cone-flattened laterally. The bicuspid roots are thin laterally and sometimes slightly bifurcated. The upper molars have three roots and the lower ones two, excepting the third molar, which is quite variable.

Extracting a tooth is not so simple an operation as it oftentimes appears. It requires a correct knowledge of the parts involved; a firm, steady hand, and the consideration of the lines of force, and with it all rapid action is desirable. The proper selection of instruments for extracting is important. For the simpler cases five pairs of forceps will suffice, but more than that are required to meet special cases and complications. The instrument selected should have the beaks well adapted to the parts to which they are to be applied and the handles should be of such shape that when force is applied it follows, as near as possible, the axis of the tooth. The instrument should grasp the tooth well under the border of the gum, and in placing it there the worst pain is produced.

The first movement is to loosen the root from its attachments, and the second to lift it out. There is very little "pulling" about it. The motion required for the different teeth depends upon the shape and position of the roots. With the best of care accidents will sometimes occur, while in careless hands the result is often serious.

In the first place, the patient should never be deceived about what is going to be done, as his co-operation is important. Sudden or violent movements on his part may thwart the best plans of the operator.

Where a portion of the root is broken it is not always necessary to remove it immediately, but it is better to explain the fact to the patient. Bad laceration of the gums is nearly always due to careless manipulation. Inoculation from unclean instruments is not unheard of, and is totally inexcusable.

Breaking of the alveolar process, or socket, of the tooth frequently occurs, but is unimportant, as this spongy bone is absorbed after the tooth is removed. It is often beneficial to cut away thin or sharp edges, thus removing this source of irritation and hastening the absorption. However, if the patient sees the small fragments of bone, he is likely to relate how the dentist broke his jaw—an accident which is almost unheard of. The tooth will sometimes slip through the instrument and fall into the throat, but there is usually no excuse for this result.

Prolonged or excessive bleeding can be checked with proper remedies. If professional assistance can not be procured, make a small roll of cotton, loading it heavily with powdered tannin, and plug the vacant socket. If this does not suffice, place on top of it a roll of cotton, which will act as a tight compress when the jaws are closed.

For the tenderness after extraction, calendula or extract of hamamelis, or arnica and myrrh, are good home remedies.

All persons do not suffer pain to an equal degree, so what is a trifling procedure to one may be serious to another. It is not so much what one can be forced to endure as what the result will be. Many times for extraction an anæsthetic is almost demanded, but it should not be used without careful consideration, for no anæsthetic is absolutely safe in all cases.

Many efforts have been made to produce local anæsthesia, but the results have been only partly successful until very recent years. At the present time there are a great variety of preparations employed which are reasonably safe and efficient, their active principle being cocaine. As this is a poisonous agent its use requires caution. In injecting any fluid into the tissues strict antiseptic conditions are required.

The commonest general anæsthetic is nitrous oxide. The effect is brief in duration and not very disagreeable. It is among the safest. In point of safety ether probably ranks next, but its odor is unpleasant. Chloroform is pleasant for the patient and rapid in action, but is more dangerous than the others. Any anæsthetic can be made dangerous by neglect or carelessness.

So, first of all, try to avoid the necessity for the loss of a tooth; but when such a condition does arise, take every reasonable precaution to avoid disaster in every form, which includes pain and the shock from the same.

Therapeutical Notes.

Phosphorus, Strychnine, and Coca in the Treatment of Impotence.—The *Journal de médecine de Paris* for December 19th gives the following formula:

℞ Dilute hypophosphoric acid...... 1 ounce;
Strychnine sulphate............. $\frac{45}{100}$ of a grain.

M. Three or four drops, in a teaspoonful of fluid extract of coca, to be taken three times a day, before eating.

Common Salt in the Treatment of Abscesses.—Lévachef (*Scalpel; Lyon médical,* December 26, 1897) recommends the so-called physiological solution of sodium chloride for washing out the cavity of an abscess after it has been opened. The results of this treatment are said to be excellent.

The Treatment of Scrofulous Polyadenitis in Children.—According to Dauchez (*Indépendance médicale,* December 7th), blisters should never be used. He prefers gentle revulsives, such as iodine followed by the application of a mercurial plaster. He gives the following formula for a resolvent application:

℞	Ammonium chloride, Tincture of arnica, each.......	10 parts;
	Camphorated vinegar, Camphorated brandy, each	75 "
	Infusion of rue..................	300 "

M. The neck is to be wrapped with flannel wet with the solution. Cod-liver oil should be given internally. In case that is not well borne, sodium arsenate may be given or the following may be prescribed:

℞	Iron iodide......................	3 parts;
	Potassium iodide.................	12 "
	Syrup of orange flowers..........	100 "
	Syrup of acacia..................	500 "

M. One or two dessertspoonfuls to be taken daily.

Hydrastis and Viburnum in the Treatment of Dysmenorrhœa.—The following formula is given in the *Journal de médecine de Paris* for January 2d:

℞	Tincture of hydrastis canadensis, Tincture of viburnum prunifolium,	equal parts.

M. Ten drops to be taken every two hours.

Cachets for Amenorrhœa.—The *Indépendance médicale* for January 5th attributes the following formula to Bloom:

℞	Strychnine sulphate.............	1.80 grain;
	Oxalic acid.....................	9 grains;
	Manganese lactate, Iron peptonate, each........	120 "
	Compound extract of colocynth...	30 "

M. Divide into sixty cachets. One to be taken about an hour before each of the principal meals.

Picric Acid in the Treatment of Blepharitis.—M. Fage (*Echo médical du Nord*, January 2d; *Lyon médical*, January 9th) has used picric acid in solutions of the strength of five, eight, and ten parts to the thousand, and in some instances the solvent, instead of plain water, has been equal parts of glycerin and water, to make the preparation adhere better to the ciliary border. With these solutions he has treated a great number of cases of blepharitis of all sorts, with good results in every instance, although some of them had not been affected by other forms of treatment. Before applying the picric-acid solution, he is very careful to free the lids from crusts by bathing them with a warm solution of boric acid or ichthyol. The application is repeated every second day. The sense of heat, the itching, and the discharge subside rapidly in impetiginous and eczematous cases. In the glandular and ulcerative forms of blepharitis, M. Fage cleanses the ciliary border, opens the little pustules, extracts the lashes that are the most altered, touches the surfaces of the ulcers with a little cotton soaked in the ten-to-a-thousand solution, and then, about two minutes later, paints the whole ciliary border with a weaker solution.

It is remarked that the application does not irritate either the skin or the conjunctiva, and that the surface to which the solution is applied is so small that the yellow staining of the skin is not conspicuous.

Salophene in the Treatment of Rheumatism.—Klimenko (*Vratch*, 1897, p. 1085; *Presse médicale*, December 4th) has found salophene exceedingly efficacious in both acute and chronic rheumatism in cases in which sodium salicylate had failed. He uses it daily in amounts ranging from forty-five to ninety grains for adults. He thinks that in some cases it acts as an analgetic.

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THE ABUSE OF MEDICAL CHARITY IN NEW YORK.

We are glad to note the tenor of that part of the State Board of Charities' annual report to the legislature which deals with the subject of the abuse of medical charity, especially in the city of New York. According to the board's report, there are in the borough of Manhattan sixty-six dispensaries, if not more, and from fifty-seven of these it received reports during the year 1897. They show that 1,043,428 patients were treated, an average of 18,305 for each dispensary. Assuming that this would also be the average number for the nine or more dispensaries that did not report, the board deduces that 1,208,173 persons really received gratuitous treatment during the year at the various dispensaries; and it realizes, too, that the dispensaries are by no means the only agencies of free medical treatment.

It is beyond question, says the report, that this state of things is wrong and produces an unfair competition with physicians, who, unlike the dispensaries, are not partially supported by charitable donations; and it is also beyond question that it is extremely pauperizing in its tendencies. The report continues as follows: "It is practically agreed among those versed in the true principles of philanthropy that beneficence is lacking in any form of charitable assistance which works material injustice to the interests of those who do not seek charity, or which is not so safeguarded as to prevent the continued dispensation of relief to those who do not require aid. Most of the dispensaries in New York city violate both of these principles, and their managers apparently are not and never have been in the temper to come to some mutual understanding whereby better conditions shall prevail. In a large degree and for various reasons they have become competitors for business to such an extent that it is probable that nearly one half of the inhabitants of New York are now receiving practically free medical treatment."

Last year, as many of our readers know, the legislature passed a bill designed to remedy the evil, but it failed of executive approval. This failure is understood to have been owing to certain provisions in the bill that seemed to the governor objectionable, and objectionable they certainly were. A revised bill, with the odious provisions left out, is now before the legislature, and it is gratifying to learn that it has the cordial support of the board. The abuse of medical charity, especially in the city of New York, says the board, has become so flagrant that immediate steps must be taken to check it on account of its pauperizing tendency.

THE PHYSICIAN'S SIGNATURE.

IT will not be questioned, we presume, that the physician should be a person of dignity. But the dignity must be innate; it must not be put on. Is it dignified for a man to prefix the abbreviation of his professional title to his name written as a signature? We are aware that it is customary for our German colleagues to do so, but for what reason we never could understand. Of late we have noticed a tendency among the very young native American physicians to do the same thing. We think it is not to be commended. No doubt it is a matter of secondary importance, and we should hardly have thought it worth while to allude to it but for the recent appearance of the report of the treasurer of the New York Academy of Medicine bearing four such signatures in print. The four gentlemen whose signatures are decked out with "Dr." prefixed to them are not only of great repute in the medical profession, but also quite familiar—none more so—with the usages of good society. Surely they never really signed their names in that way. Some officious person must have interpolated the title. Still, we are puzzled by the fact that two other signatures, those of the two gentlemen composing the auditing committee of the trustees, appear without it. Only in some such way as we have suggested can the occurrence be accounted for. We deplore it because we fear it is likely to set a fashion that will make New York doctors the laughing-stock of all the rest of the English-speaking medical profession of the world.

Custom sanctions the use of "Dr." on a physician's visiting card and on a hotel register. The abbreviation M. D. is ordinarily appended to the doctor's signature to a certificate only by request, and that almost always when the matter certified to is medical. Titles seem to us to be ludicrous on a financial document—we mean, of course, in signatures. We may be oversqueamish in this matter, but if anybody has anything to say in favor of the titled signature we should be glad to hear it. Appended to a letter, it is to us offensive.

MINOR PARAGRAPHS.

NEWSPAPER MEDICINE IN FRANCE.

THE *Petit Parisien* seems to have made a good beginning in this particular phase of journalism, if we may judge by its account, cited in the *Progrès médical* for January 1st, of the case of a young woman, Evatima Tardo, which, it says, is puzzling all the physiologists and all the savants of the New World as well as the Old. It declares that she has no sense of touch and no "functional organic sensibility" in any part of her body. A red-hot iron, it goes on to say, has been thrust through her arm without her feeling it. We fear that our esteemed medical contemporary takes newspaper medicine seriously, for at this point it comments as follows: "*Si ça été là une expérience, elle nous semble, à nous, un peu extraordinaire!!*" But this is not all. Evatima is said to be proof against all poisons and all infectious organisms. It is alleged that she has several times allowed herself to be inoculated with the bacilli of typhus, cholera, and tuberculosis. At this the commentator breaks out again with "*De plus en plus fort!!*"

THE PUBLIC WELFARE AND THE CITY BOARD OF HEALTH.

ALREADY the agencies for manipulating public opinion by means of the newspapers are at work to defeat the honorable attempt that the Medical Society of the County of New York is making to compel the board of health to stick to its legitimate work and get out of the drug business. We find this specious plea in one of the morning papers, the *Sun:* "For this purpose the health department has gradually accumulated a valuable scientific plant, and by the sale of antitoxine has been able to pursue its scientific investigations in other lines, such as typhoid fever and other infectious diseases." Disregarding for the present the question of whether typhoid fever and other infectious diseases are or are not "lines," we should like to know if the *Sun* thinks that the wickedness of getting money by unfair competition—competition made possible by public funds—is blotted out by the exercise of any kind of virtue.

THE *AMERICAN MEDICO-SURGICAL BULLETIN.*

IT is announced in the *Bulletin* for January 10th, the first number of its twelfth volume, that Dr. Horatio C. Wood, of Philadelphia, is hereafter to be the editor, but is to have the cooperation of Dr. Eccles, the late editor in chief. Dr. Wood is a strong writer, and we must congratulate our contemporary on the acquisition of such a man. Dr. Wood says: "I would earnestly solicit from my friends and colleagues throughout the profession such support as they may find leisure to accord me in the work I have undertaken."

A NEW FRENCH JOURNAL OF PÆDIATRICS.

WE have received the first number of a new Paris monthly journal entitled *Archives de médecine des enfants.* It is an octavo of sixty-four pages. The contents consist of original articles and abstracts. The first article, on Arrhythmia of the Heart in Children, is by the editor, Dr. Comby. The new journal is handsome in appearance, and it will doubtless prove a valuable addition to pædiatric literature. It is published by Masson & Co.

A PROPOSED SISTERHOOD OF MIDWIVES.

Dr. E. Mommsen, of Berlin (*Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege,* 1897; *Centralblatt für Gynäkologie,* January 8, 1898), thinks that in spite of asepsis, antisepsis, etc., the amount of puerperal disease and the obstetrical mortality are still needlessly large. He proposes the formation of a sisterhood of midwives, with a central home and branch establishments, under the patronage of some well-endowed institution, the sisters to be taught at the various obstetrical clinics.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 25, 1898:

DISEASES.	Week ending Jan. 18.		Week ending Jan. 25.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	12	2	4	0
Scarlet fever	227	14	206	14
Cerebro-spinal meningitis	1	0	0	0
Measles	341	15	389	23
Diphtheria	160	19	178	22
Croup	10	4	8	2
Tuberculosis	181	90	244	89

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending January 22, 1898:

Yellow Fever—United States			
Edwards, Miss	Jan. 20	1 case.	
Yellow Fever—Foreign			
Bahia, Brazil	Dec. 27	3 cases,	2 deaths.
Ceara, Brazil	Nov. 1–30		1 death.
Para, Brazil	Dec. 26–Jan. 1		9 deaths.
Havana, Cuba	Jan. 7–13	4 "	
Manzanillo, Cuba	Dec. 15–31		7 "
Kingston, Jamaica	Dec. 11–Jan. 1	1 case,	2 "
Manchester, Jamaica	Dec. 11–Jan. 1	1 "	1 death.
St. Andrew, Jamaica	Dec. 11–Jan. 1	1 "	1 "
St. Catherine, Jamaica	Dec. 11–Jan. 1	1 "	
St. Elizabeth, Jamaica	Dec. 11–Jan. 1	1 "	1 "
Cholera.			
Bombay, India	Dec. 7–21		9 deaths.
Calcutta, India	Nov. 28–Dec. 11		23 "
Madras, India	Dec. 4–10		5 "
Singapore, India	Nov. 1–30		1 death.
Plague.			
Bombay, India	Dec. 7–21		253 deaths.
Small-pox—United States.			
Birmingham, Ala	Jan. 20	Small-pox epidemic.	
Atlanta, Ga.	Jan. 17.	131 cases now under treatment.	
	Jan. 18–20	6 cases.	
New Hanover Co., N. C	Jan. 14.	1 case.	
Swansea, S. C	Jan. 15	Small-pox reported.	
Small-pox—Foreign.			
Prague, Bohemia	Dec. 19–28	10 cases.	
Havana, Cuba	Jan. 7–13	12 "	
Sagua la Grande, Cuba	Dec. 25–Jan. 8	70 "	8 deaths.
Sunderland, England	Dec. 15–Jan. 1	1 case.	
Gibraltar	Dec. 27–Jan. 2	1 "	
Madras, India	Dec. 4–10	1 "	
Amsterdam, Netherlands	Jan. 2–8	1 "	
Odessa, Russia	Dec. 26–Jan. 1	10 cases,	1 death.
Warsaw, Russia	Dec. 19–25		5 deaths.
Glasgow, Scotland	Dec. 19–25	1 case,	1 death.
Barcelona, Spain	Oct. 1–31		6 deaths.
Cardiff, Wales	Dec. 17–24		1 death.

The Late Mr. Ernest Hart.—The *Lancet* for January 15th publishes an obituary notice, by a member of the staff of the *British Medical Journal,* of the latter journal's late editor, Ernest Hart, M. R. C. S , D. C. L., who died on January 7th. For its own part, the *Lancet* appends the following statement:

"He was introduced to the late Mr. Thomas Wakley, the founder of the *Lancet,* by a Dr. Wright, whose failing health in 1856 compelled him to resign his position as a member of the staff. Dr. Wright brought Ernest Hart to the office as his possible successor, and discounted all objections that might be raised on the score of his young friend's age by saying boldly: 'He's the cleverest youngster in London,' and bidding Hart show his testimonials. Among these testimonials was one from the head master of the City of London School, stating that Ernest Hart was the most capable lad whom he had ever educated, and was captain of the school at an age two years junior to that of any previous captain. Ernest Hart had also a great record as a prize-winner at his medical school, and was at once given a place upon our staff. His duties as defined by the agreement which lies before us were threefold: (1) To write leading articles to order; (2) to write in the editorial style on topics selected by himself, but subject to the editor's approval; and (3) to take charge of the columns devoted to the reporting and discussion of medico-Parliamentary affairs. In every department he acquitted himself to the satisfaction of the editor. In 1863 Mr. Ernest Hart was employed by Dr. James Wakley, who had succeeded his father as editor of the *Lancet,* in the 'reading and correcting of proofs' and in 'assisting in the literary departments of the journal'—to quote the words of the second agreement, which also lies before us; and we have always supposed that it was some imperfect recollection of the terms of this document that originated the rumor which we have so often found it necessary to contradict, that Mr. Ernest Hart was once 'coeditor' of the *Lancet.* His duties were the usual duties of the literary assistant, and he discharged them with alacrity and ability. In December, 1864, and early in 1865, two tragedies occurring in the infirmaries of certain London workhouses, the editor of the *Lancet* held an inquiry into the management of these institutions. His able commissioners included Dr. Francis Edmund Anstie, afterward editor of the *Practitioner,* Dr. Carr, of Greenwich, and Mr. Ernest Hart, who were aided in their labors by Dr. Joseph Rogers; and their investigations, when published in the *Lancet,* produced a profound impression upon the public and eventually resulted, through the medium of the Workhouse Infirmaries Association (of which Ernest Hart was honorary secretary), in a revolution of the existing law. In 1866, for reasons of a purely private nature, Mr. Ernest Hart's connection with the *Lancet* was suddenly severed, and it would be idle to pretend that relations for some time afterward between him and the proprietors of the *Lancet* were otherwise than hostile. But time has obliterated these feelings, and we should not have referred to the matter at all if certain of our contemporaries had not dwelt a little unduly upon it. Mr. Ernest Hart was a good friend, a bitter foe, and a brilliant journalist. He was not 'coeditor' of the *Lancet,* for the excellent reason that Dr. James Wakley was quite competent to look after the journal by himself, but he was an admirable coadjutor. The world has lost in him a man of energy, enterprise, and public spirit, and we desire to record our unmistakable sense of the loss."

The Late Dr. Joseph O'Dwyer.—The Medical Society of St. John, N. B., Canada, has passed the following resolution:

Resolved, That this society has learned with profound regret and sorrow of the death of Dr. Joseph O'Dwyer, of New York, at an age at which we might be led to expect from a man of his character and accomplishments still greater achievements in the domain of Science;

That in Dr. O'Dwyer's death the profession in America has lost one of its brightest ornaments and one of its scientific heroes, who, by his steadfastness of purpose and persevering labor, initiated, demonstrated, and popularized the procedure of intubation of the larynx in diphtheritic croup —a procedure which has been phenomenally successful in rescuing from certain death tens of thousands of children annually;

That in the great galaxy of brilliant names which this closing century presents to the century about to dawn there is none deserving of a more honored place than that of Joseph O'Dwyer;

And further resolved, That we desire to convey to his family, to the circle of his immediate friends, and to the medical profession in New York our sincere and heartfelt sympathy in the great loss which they have sustained in his early removal from a sphere of great usefulness and activity.

The medical board of St. Vincent's Hospital, at a special meeting held January 8, 1898, caused the following minute relating to the death of Dr. Joseph O'Dwyer, one of the physicians of the hospital, to be entered upon its records:

The members of the medical board of St. Vincent's Hospital have learned with profound regret of the death of their colleague, Dr. Joseph O'Dwyer. He was faithful and conscientious in the performance of every duty devolving upon him as a medical officer of the hospital, while the scientific spirit which governed and directed his service in the care and treatment of the sick contributed both to the welfare of the patients and to the elevation of the standard of medical practice of the hospital. Dr. O'Dwyer was a most genial and helpful companion and friend. In the field of scientific medicine he had gained a world-wide reputation by his discovery of a method of intubation in laryngeal stenosis which has resulted in an immense saving of child-life in diphtheria. Though yet in middle life, Dr. O'Dwyer had already won the highest prizes of human ambition—viz., the gratitude of the sick, the love and respect of his associates, and an exalted rank in his profession.

[Signed.] C. J. MacGuire,
P. S. Morrow,
Stephen Smith, *Committee.*

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Obstetrics and Gynæcology, on Tuesday evening, the 25th inst., the following papers were to be read: Torn and Punctured Wounds of the Uterus and Vagina: Symptoms, Prognosis, and Treatment, by Dr. James F. W. Ross, of Toronto, Ontario; and A Report of an Obstetrical Case following a Ventrofixation, by Dr. Vertner Kenerson.

The Senn Medal.—Members of the American Medical Association who intend to compete for the medal offered by Dr. Senn for the best essay on some surgical subject are requested to forward type-written copies to Dr. J. McFadden Gaston, chairman, Atlanta, Georgia.

The Association of the Alumni of Randall's Island Hospital has been organized, and its officers are Dr. Frank Van Fleet, president; Dr. Robert Lewis, Jr., vice-president; Dr. David T. Marshall, secretary; and Dr. L. K. Neff, treasurer.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 22d inst., Dr. L. Bremer was to read a paper entitled The Neurasthenic Heart, which was to be discussed by Dr. W. E. Fischel, Dr. Justin Steer, Dr. William Porter, Dr. W. G. Moore, Dr. J. K. Bauduy, and Dr. C. H. Hughes.

An Army Medical Board will be in session in Washington city, D. C., during the month of May for the examination of candidates for appointment to the medical corps of the United States army, to fill existing vacancies. Persons desiring to present themselves for examination by the board should make application to the Secretary of War before April 15, 1898, for the necessary invitation, giving the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from which they were graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates, based on personal acquaintance, from at least two reputable persons as to citizenship, character, and habits. The candidate must be between twenty-two and twenty-nine years of age, and a graduate from a regular medical college, as evidence of which his diploma must be submitted to the board. Successful candidates at the coming examination will be given a course of instruction at the next session of the Army Medical School, beginning in November, 1898. Further information regarding the examinations may be obtained by addressing the Surgeon-General, United States army, Washington, D. C.

Nurses for Epileptics.—A training school for nurses has been organized at the Craig Colony for Epileptics. This is said to be the first instance of an institution having the care and treatment of epileptics undertaking the special training of nurses for this class of patients.

A Medical Senator in France.—We learn from the *Presse médicale* that Dr. Samuel Pozzi has been elected a senator.

Changes of Address.—Dr. J. L. Feinberg, to No. 1716 Madison Avenue, New York; Dr. Woodruff L. Post, from Toronto to No. 250 West Forty-sixth Street, New York; Dr. F. Conger Smith, to No. 309 West Forty-sixth Street, New York; Dr. Thomas J. Yarrow, Jr., to No. 1739 North Sixteenth Street, Philadelphia.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Two Weeks ending January 22, 1898:*

Cabell, A. G., Surgeon. Ordered home and granted three months' sick leave.

Dunbar, A. W., Passed Assistant Surgeon. Orders of January 12th modified. Detached from the Nashville and ordered to the San Francisco.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending January 20, 1898:*

White, J. H., Passed Assistant Surgeon. To rejoin station at New York. January 20, 1898.

Brown, B. W., Passed Assistant Surgeon. To proceed to Birmingham, Ala., for special temporary duty. January 19, 1898.

Rosenau, M. J., Passed Assistant Surgeon. To proceed to San Francisco, Cal., as inspector of unserviceable property. January 14, 1898.

Board convened to meet in Washington, D. C., January 21, 1898, for the physical examination of officer of the Revenue-Cutter Service. Surgeon C. E. Banks, chairman; Passed Assistant Surgeon G. T. Vaughan; and Passed Assistant Surgeon E. K. Sprague, recorder.

Society Meetings for the Coming Week:

Tuesday, *February 1st:* New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Society of the County of Cattaraugus (quarterly), N. Y.; Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Maine, County Medical Association (Lewiston); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

Wednesday, *February 2d:* New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, N. Y. (Stapleton); Penobscot, Maine, County Medical Society (Bangor); Bridgeport, Connecticut, Medical Association.

Thursday, *February 3d:* New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *February 4th:* Practitioners' Society of New York (private); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

SATURDAY, *February 5th:* Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

Births, Marriages, and Deaths.

Married.

HIESTAND — HOGAN. — In Merrimac, Kentucky, on Wednesday, January 5th, Dr. Clement V. Hiestand and Miss Mattie Hogan.

HUBER—SCHAFER.—In Batavia, N. Y., on Thursday, January 20th, Dr. Carl A. Huber, of Rochester, and Miss Cora Schafer.

McCLENDON—STRANGE.—In Hot Springs, Arkansas, on Thursday, December 30th, Dr. G. F. McClendon, of Hot Springs, and Miss Sadie Strange, of Little Rock.

PETTY—GLOVER.—In Raymond, Mississippi, on Friday, January 14th, Dr. John H. Petty and Miss Callie Glover.

Died.

BARRON.—In Clinton, Georgia, on Monday, January 17th, Dr. James F. Barron, aged seventy-three years.

MITCHELL.—In Philadelphia, on Monday, January 24th, Maria Gouverneur Mitchell, daughter of Dr. S. Weir Mitchell, in the twenty-second year of her age.

VER MEULEN.—In Philadelphia, on Friday, January 21st, Dr. Edmund Carlyle Ver Meulen, of the navy (retired), in the sixty-fifth year of his age.

Letters to the Editor.

THE "EXPLOSIVE" EFFECTS OF BULLETS.

136 BOWERY STREET, NEWARK, N. J., *January 25, 1898.*

To the Editor of the New York Medical Journal:

SIR: In reading the review of *Wounds in War*, published in your issue of January 22d, I was struck anew by the diversity of opinion on the nature of the wounds made by the modern small-calibre bullets.

The last testimony upon this subject which I recollect was that given before a congressional committee by a surgeon who had served with the insurgent army in Cuba. He told of men shot through the chest, continuing the fight without being aware of their wounds, and, moreover, returning to duty after a few days' rest.

Newspaper correspondents on the Indian frontier state that the British troops complain of the lack of "stopping power" of their bullets. Charging tribesmen are said to have reached the British lines although pierced through and through many times.

These observations were made during actual warfare, upon living human bodies, and certainly deserve more consideration than those observations made where the cadaver was used as a test subject.

The nature of the "experiments" made by the author of the book in question is not stated in your review, but presumably they were of the same character as those made by officers of our own and of the Prussian armies —*i. e.*, upon the cadaver.

And here is the reason of this letter. I would call attention to the opinion of almost all big-game hunters. It is that the small-calibre, steel-jacketed bullet has little or no "stopping power." Hunters and guides are, in my experience, unanimous in condemning it as ineffectual. Last October I hunted deer, and for purposes of experiment carried some steel-jacketed bullets in addition to the "soft-nosed" (lead-pointed, half-jacketed) bullets recommended for game shooting. My rifle was a .30 U. S. Winchester. I used the "soft-nosed" bullet first, carrying the steel bullets in the magazine.

The shattering effect of the "soft-nosed" bullet was evident, but in no case did I find the "explosive" effect of the steel bullet. The wounds of entrance of both bullets were small and clean, but the track of the "soft-nosed" within the body was marked by a wide destruction of tissue, while I was once unable to trace the path of the steel bullet. The wound of exit of the "soft-nosed" bullet was large and ragged, while that of the steel bullet was but little larger than its entrance wound.

The second bullet was fired immediately after the first, when the animals were living and running. The range was under a hundred yards.

I also killed many partridges with the steel bullets, and but once did I see the "explosive" effect, if such it was. On that occasion the bullet first passed through a half-rotten log, twelve inches thick, and I could not determine how much the splinters torn from the log had to do with the shattering of the bird.

If the "explosive" effect is due to the high velocity, it should certainly be more manifest at short range than at long range.

It is rare, in the East, that deer are killed at greater range than a hundred yards; in most cases it is less.

The analogy between the body of a deer and that of a man is sufficient for a comparison of the effects of a missile, at least so far as the character of the wound made is concerned.

The power of resistance to injury is involved in a consideration of the "stopping power," and a conclusion embracing that effect would not here be valid.

Very many medical men go into the woods, and it would be of interest to learn if they have made observations upon this subject. CHARLES V. BURKE, M. D.

INTUBATION IN THE TREATMENT OF HICCOUGH.

306 WYOMING AVENUE, PITTSTON, PA., *January 11, 1898.*

To the Editor of the New York Medical Journal:

SIR: In the *Journal* for January 1st there is an article entitled Laryngeal Intubation and the Act of Vomiting. While I was reading it the thought occurred to me that intubation would effectually prevent the act of hiccough, and that it might be successfully used in those obstinate cases followed by death.

E. E. WESTON, M. D.

A POINT IN THE EXAMINATION OF URINE FOR SUGAR.

SHARON, PENNSYLVANIA, *January 17, 1898.*

To the Editor of the New York Medical Journal:

SIR: I notice in your *Journal* for January 15th an article, by Dr. Thomas B. Futcher, on Alkaptonuria. His remarks remind me of a case under treatment some twenty years ago. I suspected there was sugar in the urine, and with Trommer's test I obtained the apparent reaction. In my second test I forgot the copper, but obtained the same result. This led to inquiry and further experimentation. From these I learned that the urine of persons taking rhubarb, santonin, or some other substances, gave a reaction that might be mistaken for that of sugar.

While I was in New York, about eighteen years ago, a professor in a Western medical college handed me a specimen of his urine for examination, under the belief that he was a victim of diabetes, his associate having made the Trommer test and found sugar. After my making the double test (with and without the copper sulphate) before his eyes, and getting the same reaction, he went home a much happier man. He was in the habit of using rhubarb for its effect upon the bowels.

S. A. Hazen, M. D.

Proceedings of Societies.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Meeting of November 10, 1897.

The President, Dr. Brooks H. Wells, in the Chair.

(Continued from page 127.)

Report of Cases of Appendicitis.—Dr. Walter Lester Carr reported two cases. (See page 148.)

Dr. Wiggin said he thought these cases emphasized the importance of operating in the interval between the attacks; one could never tell when the attacks might become serious and fatal. Where adhesions had formed about the appendix, the patients generally complained of more or less constant pain, and it was his experience that after the formation of adhesions a slight pressure over the site of the appendix caused pain to be felt in that region. This pain was also increased by muscular exercise, such as walking, and things of that kind. He thought that general or localized peritonitis was due to perforation and infection, and probably in the cases reported there had been a small perforation in the tip of the appendix, and the adhesions had formed to shut off the trouble from the general cavity. It was pretty well settled at the present time that when there was a history of repeated attacks of appendicitis it was wise to operate, either at the time of the attack or in the interval. But it was not entirely settled in the minds of many as to whether or not it was wise to operate upon a patient suffering from a first attack. He had recently heard a paper read in the course of which the author condemned operating in all cases during the first attack. While it was undoubtedly true that many patients with catarrhal appendicitis recovered without operation, yet appendicitis should be considered a surgical disease as soon as it had been diagnosticated, and the medical treatment should be limited to the application of a moderate degree of cold over the site of the appendix and to enemata to unload the large intestine. Opium should not be employed to relieve the pain till after the diagnosis and the line of treatment to be followed had been determined upon, and the patient should always be informed that its action was not curative, although it would lessen his pain and arrest the vomiting. Opium not only relieved the patient's pain, but obscured all the other symptoms, besides paralyzing the conscience of the physician. If one had made a diagnosis of a first attack of appendicitis the case should be watched carefully by both the physician and the surgeon, and if, in spite of the mild medical treatment already referred to, the symptoms continued to increase in severity—if the vomiting became more constant, and the pulse rate was gradually and steadily creeping up—the operation should not be deferred more than thirty-six hours. If, on the other hand, the symptoms began to subside, one could wait, and either operate in the interval or see whether or not the patient had a second attack, when, if it was severe in character, the operation should be performed without more delay than was necessary to secure proper assistance and light. If a patient, when seen, was found to be collapsed, it was best not to operate at once, but to stimulate him with opium, strychnine, etc.; but when he rallied, the sooner the operation was performed the better the chance for recovery. When a serious doubt arose in one's mind as to whether or not the case under observation was one for operation, the patient should be given the benefit of the doubt, and the operation should be performed. In these cases the situation of the pain and the bodily temperature had little diagnostic value: the speaker had seen cases in which the pain had first been situated on the right side and then on the left, and also cases in which severe peritonitis had been accompanied by a normal or subnormal temperature. Our most reliable guides were the pulse rate, the patient's facial expression, and the rigidity of the abdominal muscles. Every case should be considered individually and on its own merits.

Dr. Newton spoke of having read lately a report on the treatment of this disease. In the clinic of Professor Biermer one hundred and twelve cases had been treated, in which the death-rate had been 1.78 per cent. The cases had all been treated medically. It had been in the fifteen years from 1874 to 1889, before the appendix had been treated surgically, and the treatment had consisted mainly in giving opium without stint, and wherever there had been a recurrence of the symptoms opium had been given again, and its use had been kept up in one case for twenty-five days. In addition to opium, a restricted liquid diet, perfect rest in bed, and iced compresses, followed by warm applications (after the fever had subsided and exudation had taken place), had been insisted upon. About seventy of these cases had been followed up, and seventeen had relapsed, or 24.3 per cent., but none of them after two years from the conclusion of this treatment. Two of the cases that relapsed had ended fatally. These histories were interesting because, although at the present time nearly everybody agreed that appendicitis should be treated surgically, there was a good deal to be said on the medical side.

Dr. Carter S. Cole said there was one very practical point that had been brought out by Dr. Richardson, of Boston: that the perforation often occurred in severe cases before any sort of treatment was instituted; that very frequently perforation was one of the earliest conditions attendant upon the severe colicky symptoms; and the relief that the patient had from pain for a number of hours occurred after the perforation and while the intestinal contents were escaping into the abdominal cavity. Of the cases in which he had operated, he had found perforation in nearly every one where there was a history of very severe colicky pain, either with or without surrounding inflammatory processes. In one case the tip of the free appendix, which was resting on the uterus, had given, in the course of its perforation, all the symptoms of severe uterine colic.

Dr. Charles J. Proben said that the cases reported were especially interesting because of the digestive disturbances, which were very apt to precede or to be associated with appendicitis. He thought one ought to be careful and examine every case of this kind for signs of appendicitis. He spoke of a case of his occurring a year ago that had begun with an acute colic, in which recurrent attacks occurred, and, finally, on palpation, an enlarged, thickened, and tender appendix had been detected. These patients always had intestinal disturbances, and frequently chronic catarrhal colitis or enteritis was the causative factor of appendicitis. As to the question of narcotics during an attack, they were apt to hide the symptoms, and one was left in doubt as to whether the patient was improving or declining. He spoke of two cases of catarrhal appendicitis in which he had operated last year, where the situation of the appendix had been detected very accurately by palpation. One had been caused by an adhesion from pyosalpinx, which had involved the appendix, causing a stricture. Both patients had recovered. In both, intestinal symptoms had been marked before the attack occurred.

Dr. Rupp said that, in looking through medical journals for another purpose, he had met with the following two interesting cases of appendicitis that, in a manner, touched some of the points referred to by Dr. Carr's paper, and also showed well the difference in the way these cases were regarded now and thirty or forty years ago. In 1860, Dr. A. M. Vedder, a professor of anatomy and physiology, had been called in to treat a child who had already been sick off and on for several weeks with vague pains in the abdomen. This child had been dosed with cathartics and worm medicines. Then it had become chilly and feverish, and Dr. Vedder had been called in. He had given calomel and opium, which had operated on the bowels and relieved pain. Several days later the child had died; a gill of pus had been found in the abdomen, and the inflamed appendix ruptured near its insertion. The other case was that of a man who had had as many as six or more attacks of pain in the abdomen, and, finally, an abscess in the appendicular region, which had ruptured outwardly. Opium had always relieved the attacks. In those days—forty years ago—much more had been left to be done by the patient himself than the surgeons allowed to-day. This abscess had been probed by the finger of the surgeon—Dr. Krackowitzer—who had pronounced the abscess to be between the muscles. This abscess had continued to discharge, until one day, while the patient was cleaning it, something hard had fallen into the basin, which had proved to be an enterolith. The abscess had then healed.

Recently, the speaker had been consulted by a stout woman who complained of pain in the abdomen after eating. This case had illustrated the inadequacy of diagnosticating abdominal disease by pain alone. Pain, after it had directed attention to the possible seat of trouble, ceased to be of diagnostic value, and this fact also illustrated the paradoxical statement often made by surgeons concerning the use of opium in appendicitis cases. Pain was a comparatively unimportant symptom, in so far as diagnosticating the gravity of any case of appendicitis was concerned, but it might be a very important one therapeutically, and no surgeon could dissuade him from giving opium in cases of appendicitis in quantities enough to relieve the patient's agonies, which were sometimes out of proportion to the gravity of the appendicular disease. In the stout woman just spoken of, examination per rectum and vagina had revealed a pyosalpinx. The woman had been operated upon, when an extra-uterine pregnancy had been revealed besides.

Dr. F. W. Merriam spoke of the case of a young man twenty years of age who had undoubtedly had appendicitis. He had been operated on, but not early enough, because there had been some gangrene of the gut, and afterward a fistulous opening, which had finally healed. Surgeons emphasized the fact that it was very important to operate early in appendicitis. A few days afterward a patient of his had been taken sick with appendicitis. He had ordered hot applications, and in three days the patient had been better. About a year afterward the patient had been taken with another attack. He had watched the case for a week, and finally had called in a surgeon, who had diagnosticated pus, and had advised an operation. On operating they had thought at first it was a malignant growth and involved the kidney. They had finally found a tumor connected with the appendix; they had removed the appendix and the patient had made a good recovery. There had been no pus. He asked how many attacks a man could have. In this case he did not think the man would have died if he had not been operated on. As to the symptom of pain, he did not think that amounted to much, as some patients complained more of pain than others.

Dr. Thomas D. Merrigan thought one often could not make a diagnosis of appendicitis in the beginning, because the pain might be in any part of the abdomen. He had seen two cases where the pain had begun in the epigastric region, and after twenty-four hours had gone down to the right iliac region. In another case the pain had remained in the right iliac region for twenty-four hours, and then had gone to the other side of the abdomen. In one case the palpation had been made by Dr. Hartley, and he had not been able to find any enlargement of the appendix, although, from the history of the case, he had made a diagnosis of appendicitis. The pulse had been rapid, the temperature 101° F. On operation general peritonitis had been found in the abdominal cavity. The right half of the abdominal cavity had been filled with pus and shut off by adhesions; on the opposite side there had been a small collection of pus. The appendix had been removed. There had been no adhesions immediately about the appendix. He spoke of another case where the woman had had such intense pain that she was screaming most of the time. He had not believed at the time in giving morphine, but she had been so urgent in her appeals for relief that he had given her a hypodermic injection of morphine. Her pulse had never been above 100; she had recovered after five or six days. These two cases—the general peritonitis where there had been so little pain, and the other case with such severe pains, but with recovery without an operation—had shown that great care must be used in advising operation for appendicitis.

Dr. W. L. Stowell spoke of one case in which pain had been present, and one of two in which it had been absent. In one case, that of a child three years and a half old, where the temperature had been 103° F. or 104° F. for a number of days, the pain had not been very marked, but a diagnosis of appendicitis had been made. The patient had been operated on, and it had proved to be a case of tuberculous appendicitis.

Later, the child had had general tuberculosis and had died. In another case there had undoubtedly been appendicitis from the beginning, but with only slight pain. The patient had been operated upon, and there had not been a drop of pus. The appendix had been removed, and while there had been no abscess he had got rid of the inflammation. He had not had a recurrence of the trouble. Dr. Merriam's question, How many times a patient could have appendicitis, was one that had interested him in one case, that of a little boy, who had had three attacks of appendicitis. Eighty per cent. recovered without operation, and it was a question in his mind when to operate and when to use medicinal treatment alone.

Dr. G. D. Hamlin said, in answer to Dr. Merriam's question as to how many times a person could have appendicitis, that one patient whom he had had under observation, a neighboring physician, had had five well-marked and undoubted attacks of appendicitis during the past fifteen years, the last one three years ago. As a rule, he had been confined to his bed about a week or ten days with each attack. Each time he had said he was going to be operated upon when he recovered, and each time neglected operation. The speaker believed in and always used opiates. Those not connected with hospitals were thrown upon their own resources, and treated a great many cases medically that would be operated upon if it could be done conveniently. The speaker had seen so many patients that recovered and so few that died under the medical treatment that he was not convinced of the necessity of operating in every case, but believed that cases for operation should be selected with conservatism. Men who practised medicine more largely leaned to the idea that medicinal treatment would save as many as surgical treatment would. Those who practised surgery as a specialty, of course, thought differently.

Dr. Ramon Guitéras said that it was a hard thing to say when we should operate and when we should not in appendicitis. He thought that the furor for operating had in a great measure passed. In regard to the question of pain, one could not judge very much by that alone, as the amount of pain in appendicitis varied greatly. A sudden increase or decrease of pain in connection with the presence of a tumor was important. The duration of the attack, the character of the pulse, and the temperature were guides that should be followed more closely than pain. So far as catarrhal appendicitis was concerned, a man might have any number of attacks. He did not think that seventy-five per cent. of the cases of appendicitis were diagnosticated as such, as the attacks were so slight that unless the practitioner was very alert on the subject of appendicitis he would think them no more than ordinary colic. In his own case he had had five or six marked attacks of appendicitis, the severest attack being two years and a half ago. He did not think one could palpate in cases of appendicitis, as generally there was great muscular rigidity. Where there was a tumor that had existed for some time, one had to be guided by the temperature and pulse. The case Dr. Merriam spoke of, where they had cut down and found a tumor but no pus in the tumor, would undoubtedly have ended in recovery without an operation; but if the temperature showed that there was pus, an operation should be performed immediately. It was hard to lay down cast-iron rules. In a case of his where he had insisted upon an operation, but the man deferred it, the patient one night had had sixteen movements of the bowels, and the next day he had had no tumor; probably the abscess had broken into the cæcum, and his diarrhœa had been caused by the flow of pus into the rectum. As to the use of opium, he thought it masked the symptoms, and that an ice bag was the best thing, putting the patient on milk diet, and not using opium unless it was absolutely necessary.

Dr. D. E. Walker regretted that he had not heard the paper. He thought that no one could lay down cast-iron rules as to whether one should operate or not in these cases; but if a man was to commit an error either way, it was better to operate. There was hardly any danger from the operation itself if properly done, and even if a man had nothing but catarrhal appendicitis no harm was done; but if one made a mistake the other way, it was an irretrievable error and death was the result.

The President said that it was an acknowledged fact that a large number of patients with appendicitis recovered with very simple medical treatment. He did not think opium should be used unless the diagnosis was definite and one could watch the case carefully. As to the question of operation, he agreed with the last speaker that it was better to err on the side of operating than on the side of leaving the patient alone. The operation could be done perfectly well in a private house if care was used. As to pain and fever, they were both very unreliable symptoms. Some of the severest cases of appendicitis and also general peritonitis might not be accompanied by any pain, and it was the same with fever. One must judge by the general condition of the patient, the pulse, and the abdominal symptoms. He spoke of three cases. In one, which he had seen in the summer, the patient had complained only of vague abdominal pain. His physician had treated him for biliousness for a week, and one day the pain had suddenly disappeared. Within a short time the man had shown serious symptoms of peritoneal infection; the speaker had been called and had recommended immediate operation. The diagnosis and indication had been corroborated by Dr. Elliot, who had also seen the case. They had both been discharged, and the case had been given to a practitioner who had promised to look after it for four dollars a day, and had given large doses of opium. The patient had lingered between life and death for a week, but finally had recovered, and after many weeks had been able to be out of bed. He was now able to walk, but with a limp. It had undoubtedly been a case of perforation. The two other patients the speaker had operated on within the last eight days. One was a young woman of twenty-two years, in whom an appendicular abscess had ruptured some time before the operation, and she had apparently a general suppurative peritonitis. Free incisions and drainage by the abdominal wound and the vagina had relieved her, and she had now a fair chance for recovery. Another case was that of a child four years old, who, when first seen, had not seemed sick enough to be operated on; temperature, 100°; pulse good. The following morning the child had evidently been very sick, and, on operating, an abscess had been found with fœtid pus about the appendix, and a perforation at the junction of the appendix and the cæcum. The case had been doing well, but on the fourth day the child had become jaundiced and had died on the sixth day, evidently septic. No autopsy could be obtained.

Dr. Carr said that he wished to bring out but two points, but those members who had spoken seemed to have covered all points in connection with the disease. What he wished to consider were those cases which gave intestinal pain with colicky attacks occurring more or less frequently, and those cases where there was a “tearing” pain without a distinct tumor. In the first case, which had been successful, old adhesions had been found and the appendix had undergone acute inflammation; and in the second case, where the operation had been delayed and had not been successful, the same conditions had been found. He merely wished to make clear that there were certain cases of appendicitis where there were symptoms of indigestion without very much pain, so that the patients would go about, and yet these cases ended disastrously, unless it was understood that the appendix was bound down by bands of adhesions and was liable to an acute inflammation.

(*To be concluded.*)

Book Notices.

The Peritonæum. By Byron Robinson, B. S., M. D., Chicago, Ill. Part I. Histology and Physiology. With Two Hundred and Forty-seven Illustrations. Chicago: C. V. Waite & Co., 1897. Pp. viii–406. [Price, $3.75.]

To review a single volume of a treatise of such pretension as this, knowing nothing of the contents of those volumes to which it is the introduction, is a difficult task indeed, and rendered more difficult by the fact, as stated in the preface, that this is a pioneer work. The necessity for such a work is said by the author to lie in the prevalence of inflammation of the peritonæum; the object, to add to our present knowledge facts that shall aid us in the successful treatment of such inflammation.

In taking up the book one is first impressed with the wonderful amount of reading that the author must have done. This is shown both by his evident familiarity with the works of many authors and by the truly monumental bibliography with which the present volume closes. One can but marvel at such industry. An amount of work perhaps even greater, though in another direction, is shown by the number of illustrations from Dr. Robinson's personal observations. The text, however, leaves one with the feeling that so great a mass of data needs more careful and logical classification. The salient points do not stand out clearly enough and the reader is wearied in seeking them among a mass of details necessarily very great. It is to be regretted also that no forecast of the plan of the volumes which are to follow is given.

The book opens with an historical sketch of the more important discoveries in the anatomy, gross and minute, and in the physiology of the peritonæum. Then follows an introductory chapter in which the course and methods followed in the study of the material are reviewed, and “unsettled points” and “subjects of discussion” are stated. The succeeding chapters deal with the endothelia of the free peritoneal space, the subperitoneal tissue, the blood-vessels, the nerves, and the lymphatics of the peritonæum, in turn. The physiology of the peritonæum is next treated of in a very full and interesting chapter, and the volume closes with a chapter on technics, and a *résumé* of the physiology of the peritonæum.

In addition to the very complete review of the work that has been done heretofore on the peritonæum, many new facts and some new views of well-established facts are brought out. The illustrations are very numerous, well selected, and well reproduced, and the index, which is very complete, together with the immense bibliography to which we have alluded, will make the work a valuable one for reference.

Le phénomène de l'agglutination des microbes et ses applications à la pathologie. (Le sérodiagnostic.) Par le Dr. Raoul Bensaude, Ancien interne des hôpitaux de Paris, etc. Paris: Georges Carré et C. Naud, 1897. Pp. 7 to 304.

The wide scope of our knowledge of the action of blood serums upon bacteria, and of its application to therapeutics and diagnosis, receive in this monopraph exhaustive consideration. The bactericidal action of the blood serum in typhoid fever upon the *Bacillus typhosus* occupies about half the treatise. The author's sketch of the course of study of the “phenomenon of Pfeiffer,” culminating in “Widal's reaction,” his description of the procedures to be recommended in the test, his review of clinical experience with the test in many parts of the world, and his conclusions in regard to the value of the test and its limitations, all combine to make this the most complete presentation of the subject now extant. The illustrative cases chosen from the author's own considerable experience fully indicate the value of the test in clinical medicine. The bibliography relating to these chapters is very complete.

The application of this study in other diseases is considered at some length, as in cholera, Malta fever, bubonic plague, tetanus, diphtheria, and infections by the bacillus of Nocard, the *Bacillus coli communis*, the pneumococcus, the streptococcus, the staphylococcus, and the proteus group.

The monograph closes with chapters on the nature and distribution of the agglutinating substance in the organism. The condensation of the extensive and widely scattered literature of these subjects must prove a most acceptable service to all branches of the profession.

Manual of Pathology, including Bacteriology, the Technics of Post-mortems, and Methods of Pathological Research. By W. M. Late Coplin, M. D., Professor of Pathology and Bacteriology, Jefferson Medical College, etc. Being a Second Edition of the Author's *Lectures on Pathology*, rewritten and enlarged. With Two Hundred and Sixty-eight Illustrations, many of which are Original. Philadelphia: P. Blakiston, Son, & Co., 1897. Pp. xxi–11 to 638. [Price, $3.]

The attempt to condense such an enormous mass of facts relating to several essentially different branches of medical science has in this volume been attended with about all the success that could be expected. The work aims to be a practical students' manual of the principles of general pathology and bacteriology, of special pathological anatomy and bacteriology, of post-mortem examinations, of several branches of clinical diagnosis, including the analysis of the urine and morphological examination of the blood, and of the methods of bacteriological and general microscopical research.

With such a problem one must expect marked deficiencies in all departments, made necessary by the limited size of the volume.

And yet, considered as a universal laboratory manual, it is difficult to see how the pages could have been put to better use than the author has done, condensing in very succinct style and with uniformly wise discrimination most of the facts that may be considered essential to the medical student. Less complete and practical directions for the conduct of post-mortem examinations have been written of double the bulk of this particular chapter. We find it a fairly reliable guide for a student in the examination of urine and blood. Histological and bacteriological procedures are presented, not at great length, but with a few trustworthy directions, sufficiently complete for the undergraduate student. Throughout the volume strict attention has been paid to the immediate needs of the student and beginner, and it is doubtful if any improvements could be made in the distribution of the available space of six hundred pages.

The sole difficulty in the way of a frank approval of the work and its more than local adoption is the fact that in most large medical colleges many of these subjects are taught separately, and each requires a separate text-book. On its own ground, however, the volume is certainly a credit to the author, and will doubtless meet with complete approval in many schools.

Psilosis or "Sprue"; its Nature and Treatment. With Observations on Various Forms of Diarrhœa Acquired in the Tropics. By GEORGE THIN, M. D. Second and Enlarged Edition. London: J. & A. Churchill, 1897. Pp. xii–270. [Price, $3.50.]

IN preparing the second edition of this work the author has the advantage of a considerably greater experience in the study and treatment of tropical diarrhœas than when the book was first written. As might be expected, therefore, the modifications and additions, which are numerous, are such as to increase its value and scope. For instance, the number of cases cited from the author's experience has been increased from six, which appeared in the former edition, to thirty in this.

While such a treatise must have its chief interest for those whose lines are cast in the tropics, the modern facilities for travel and the consequent prevalence of globe-trotting will not allow even the most stay-at-home doctor to be unfamiliar with the diseases of any part of the world, particularly if it is a disease like this one, of long duration and subject to relapse.

The way in which this book has been presented by the publishers is well worthy of praise, especially in these days when so many of our most valuable works are hastily printed in trying type and on poor paper. The pleasure of reading is immensely increased when one's attention is not drawn from the subject in hand to some malediction upon the head of the printer.

BOOKS, ETC., RECEIVED.

A Clinical Text-book of Surgical Diagnosis and Treatment for Practitioners and Students of Surgery and Medicine. By J. W. Macdonald, M. D., Professor of the Practice of Surgery and of Clinical Surgery in Hamline University, Minneapolis, etc. With Three Hundred and Twenty-eight Illustrations. Philadelphia: W. B. Saunders, 1898. Pp. 7 to 798. [Price, $5.]

A Manual of Obstetrics. By A. F. A. King, A. M., M. D., Professor of Obstetrics and Diseases of Women and Children in the Medical Department of the Columbian University, Washington, D. C., and in the University of Vermont, etc. Seventh Edition. With Two Hundred and Twenty-three Illustrations. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. xxiv–25 to 574.

Evolutional Ethics and Animal Psychology. By E. P. Evans. New York: D. Appleton and Company, 1898. Pp. 386. [Price, $1.75.]

The Psychology of Suggestion. A Research into the Subconscious Nature of Man and Society. By Boris Sidis, M. A., Ph. D., Associate in Psychology at the Pathological Institute of the New York State Hospitals. With an Introduction by Professor William James, of Harvard University. New York: D. Appleton and Company, 1898. Pp. x–386. [Price, $1.75.]

Notes on Micro-organisms Pathogenic to Man. By Surgeon-Captain B. H. S. Leumann, I. M. S., M. B. London, D. P. H. Cambridge, etc. London, New York, and Bombay: Longmans, Green, & Co., 1898. Pp. vi–96.

Saw Palmetto. Its History, Botany, Chemistry, Pharmacology, Provings, Clinical Experience, and Therapeutical Applications. By Edwin M. Hale, M. D. Philadelphia: Boericke & Tafel, 1898. Pp. 3 to 96.

Operatzya wskrytya okolocerdetznoy sumki i anatomitzeskiya cya osnovaniya. A. R. Voynitz-Syanigentzkaho. S. 88 rysunkami v tekstye. S. Peterburg: S. P. Yakovlev, 1897.

A Modern Pathological and Therapeutical Study of Rheumatism, Gout, Rheumatoid Arthritis, and Allied Affections. By Edmund L. Gros, M. D., of the Faculty of Paris. [Translated from the French.]

Sixth Annual Report of the Trustees of the Massachusetts Hospital for Dipsomaniacs and Inebriates at Foxborough. For the Year ending September 30, 1897.

Proceedings of the United States Veterinary Medical Association. Session of 1897.

The Bulletin of the Ohio Hospital for Epileptics. January, 1898.

The Present Status of Diphtheria Antitoxic Serum. Philadelphia and New York: H. K. Mulford Company.

The Medico-legal Aspect of Eye and Ear Cases. By J. Walter Park, M. D., of Harrisburg, Pennsylvania. [Reprinted from the *Journal of the American Medical Association.*]

Ocular Symptoms in Cerebral Disturbances. By J. Walter Park, M. D. [Reprinted from the *Refractionist.*]

A Case of Acute Purulent Inflammation of the Middle Ear. By J. Walter Park, M. D. [Reprinted from the *Annals of Ophthalmology and Otology.*]

Chloroform and Ether. By D. E. Keefe, M. D., of Springfield, Massachusetts. [Reprinted from the *Boston Medical and Surgical Journal.*]

Uric-acid Diathesis and its Treatment. By Charles F. Craig, M. D., of Danbury, Connecticut. [Reprinted from the *New England Medical Monthly.*]

The Neuroses of Gout. By L. Harrison Mettler, M. D., of Chicago. [Reprinted from the *Medical Fortnightly.*]

De la valeur séméiologique des reactions anormales des muscles et des nerfs. Par le Professeur E. Doumer, de Lille. [Extrait du *Bulletin officiel de la Société française d'électrothérapie.*]

Silber als äusseres und inneres Antisepticum. Von Hofrath Dr. Credé, zu Dresden. [Sonderabdruck aus dem *Archiv für klinische Chirurgie.*]

New Inventions, etc.

AN IMPROVED ACCESSORY APPARATUS FOR ENTERORRHAPHY.

By George Wackerhagen, M. D.,
BROOKLYN.

In order to facilitate the application of sutures in intestinal operations I have proposed a rubber support to the intestinal walls, which I think will be easily expelled after it has accomplished its purpose.

The accompanying drawings (Figs. 1, 2, and 3) will indicate the shape of the several rubber supports when distended with air. The rubber at B is thicker than at *A, A,* which produces a depression when the apparatus is inflated. The end portions, *A, A,* keep the intestinal walls in position during the suturing process.

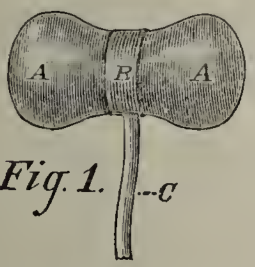

Fig. 1.

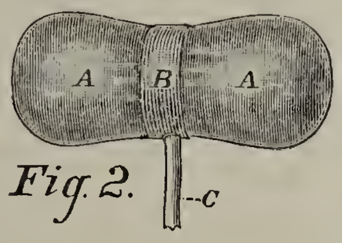

Fig. 2.

In end-to-end approximation (Fig. 2) the rubber is of slightly thicker material and more cylindrical in shape. The intestine having been properly clamped, temporary sutures, transfixing all the coats, are placed at the mesenteric and free borders and tied, the ends being left long. These are for the purpose of holding the intestine while we are introducing the collapsed rubber bag.

The end of the tube from the rubber pump (Fig. 4) is now introduced into the tube *C,* and when put in operation the portions *A, A* are distended with air. The tube *C* is now tied firmly with silk close to the surface of *B,* and is then cut off close to the ligature. The usual method of suturing is now carried out, and when it is completed a hypodermic needle is introduced through the intestinal wall into either end of the supporting apparatus *A, A,* and the air expelled, leaving the collapsed bag to pass through the intestinal canal; or, if preferred, an artery forceps may be clamped to the tube *C,* and removed when the sutures are nearly all applied, when the forceps may be removed, the air expelled, and the tube cut off close to the surface *B,* after which the suturing is completed.

It is unnecessary to describe the end-to-side method (Fig. 3), as the principal difference is in the shape of the rubber support—viz., one side is bulbous and the other cylindrical.

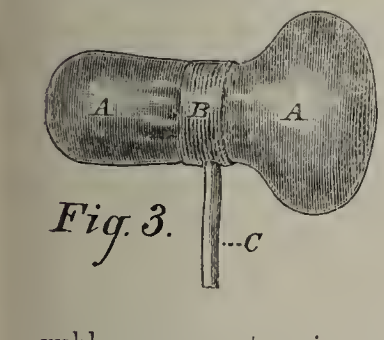

Fig. 3.

In gastro-enterostomy (Fig. 1) an opening is made in the free border of the intestine and into the wall of the stomach; at the extremities of these incisions the holding sutures are applied, and the rubber support introduced as before described in end-to-end enterorrhaphy. The sutures are most conveniently applied with a small curved needle. The opening made by the hypodermic needle may be closed by a single suture if considered necessary. Experiments by this method are in progress and will be reported.

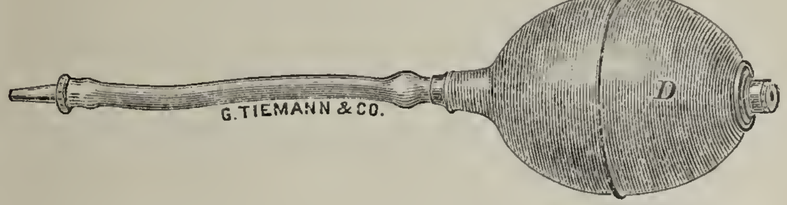

Fig. 4.

The apparatus above described has been satisfactorily completed for me by Messrs. George Tiemann & Co., 107 Park Row, New York.

28 Seventh Avenue, Brooklyn.

Miscellany.

The American Electrotherapeutic Association.—At the seventh annual meeting, held in Harrisburg, Pennsylvania, in September, it was decided to hold the eighth annual meeting in Buffalo, on the second Tuesday in September and the two following days. The following officers were elected for the ensuing year: President, Dr. Charles R. Dickson, of Toronto; vice-presidents, Dr. F. Schavoir, of Stamford, Connecticut, and Dr. Caleb Brown, of Sac City, Iowa; secretary, Dr. John Gerin, of Auburn, New York; treasurer, Dr. R. J. Nunn, of Savannah; executive council, Dr. Robert Newman, of New York, Dr. W. J. Morton, of New York, Dr. W. J. Herdman, of Ann Arbor, Michigan, Dr. W. T. Bishop, of Harrisburg, Pennsylvania, and Dr. G. Betton Massey, of Philadelphia.

The New York Medical League.—We are informed that officers of the Manhattan Section have been elected as follows: President, Dr. Joseph E. Janvrin; vice-president, Dr. Frederic R. Sturgis; recording secretary, Dr. John C. Schminke; corresponding secretary, Dr. Douglas H. Stewart; treasurer, Dr. E. Eliot Harris; trustees, Dr. F. H. Wiggin, Dr. E. J. Gallagher, and Dr. S. Kennedy; finance committee, Dr. W. H. Weston; executive committee, Dr. J. Smith Peterson, Dr. J. E. Messenger, Dr. George D. McGauran, and Dr. Wickes Washburn; delegates (to what, is not stated), Dr. Adolph Rupp, Dr. Heinrich Stern, and Dr. Joseph H. Byrne.

Three Cases of Influenza with Cerebral Lesions.—Dr. A. Pfuhi, in the *Zeitschrift für Hygiene und Infectionskrankheiten,* 1897, page 112, reports three cases of influenza which terminated fatally (*Presse médicale,* January 5th). At the autopsy the presence of Pfeiffer's bacilli in the nervous centres was ascertained.

These three cases occurred during the epidemic of 1895 to 1896, and each presented a different clinical course. In the first case, in which the disease lasted for three months, the cerebral localizations were manifested by coma, by rigidity of the nape of the neck and of the right arm, and by vaso-motor and trophic troubles, such as vesicular eruptions on the nape of the neck, eschars over the sacrum and the trochanters, œdema of the left foot, sialorrhœa, etc. At the autopsy cerebral congestion was found; the pia mater was cloudy near the right frontal convolution, and the ventricles contained a slightly blood-stained, turbid liquid. The pleura and the peritonæum were also congested, and contained a similar turbid liquid. The microscopical preparations made with the blood of the sinuses, and with the ventricular, the cerebro-spinal, the pleural, and the peritoneal liquids, revealed the presence of numerous bacilli of Pfeiffer besides streptococci and staphylococci. The cultures of these liquids gave staphylococci and streptococci, but not Pfeiffer's bacilli, a result which the author attributed to the long duration of the disease and the delayed autopsy, which took place forty-eight hours after death.

In the second case the disease lasted three weeks, and was characterized by hypertrophy of the spleen and by repeated chills. The cerebral symptoms were somewhat typical, disturbances of deglutition and ptosis. At the autopsy purulent leptomeningitis was found, and it was especially pronounced near the base. The microscopical examination of the infiltrated pia mater and of the ventricular liquid revealed the presence of numerous bacilli of Pfeiffer, with streptococci and pneumococci. A growth of these parts on human agar serum gave rise to the development of cultures of streptococci, pneumococci, and Pfeiffer's bacilli.

In the third case, in which the patient died in three days with symptoms of cholera, the cerebral lesions were identical with those of the first case. The microscopical and bacteriological examination of the ventricular and of the cerebro-spinal liquids showed the presence of Pfeiffer's bacilli, with streptococci and staphylococci. These three micro-organisms were also found in the blood of the sinuses and in that of the heart.

In this case the author had been able also to make a bacteriological examination of the viscera. The sections showed, in the brain and the bulb, a considerable number of Pfeiffer's bacilli in the neuroglia, in the lymphatic vessels and spaces, in the capillaries, in the spaces around the cells, and, finally, in the protoplasma of the ganglionic cells. They were also very numerous in the lungs, the kidneys, and the pancreas, but not in the liver.

These three cases, the author thinks, added to those already published, again prove that Pfeiffer's bacilli may invade the nervous centres.

The Medicinal Use of Strontium Salts.—In a paper read before the Washington County (Rhode Island) Medical Society on July 8, 1897, Dr. Alexander B. Briggs argued against an impression that he had found largely held by his professional brethren—namely, that there was more or less danger of poisoning in the use of strontium salts. The toxic effects reported, he says, have always been found to have been due to barium, which is present in the commercial product. When he has prescribed these remedies he has always used the pure salts or their solutions prepared by P. Chapoteaut, of Paris.

The salts that he has most frequently used are the bromide, iodide, and lactate. The dose of the bromide is from five grains to a drachm. It is not incompatible with the bromides of the alkalies, and it is soluble in both water and alcohol; it can be administered with all the alcoholic tinctures and with most fluid extracts. The indications for its use are those of bromide of potassium, and, while it is a perfect substitute for the potassium salt, its prolonged use even in large doses does not seem to produce the untoward results so often noticed in the use of potassium bromide. The gastric disturbances and the cutaneous eruptions are not seen when the strontium salt is used; again, the depressing and systemic agitation from the prolonged use of the potassium salt he has never seen from the strontium bromide.

In cases of epilepsy and other spasmodic nervous diseases in which the potassium salt has been given for a long time the strontium salt may be substituted with safety and great advantage.

In many diseases of the stomach, the bromide will be found of special benefit. Of three obstinate cases of vomiting of pregnancy in which he prescribed the drug there was decided benefit in two, while in the third case the stomach would not retain the remedy; in this case it appeared to have some reflex effect upon the vomiting centre when given in drachm doses per rectum every six hours, and it was so administered for several days in connection with other treatment.

In one case of hyperæsthesia of the stomach that accompanied and followed ulceration, continuing for several weeks after he was satisfied the ulcer had healed, the trouble promptly yielded to ten-grain doses of the drug, given half an hour before food, and there was no return of the symptom.

In a case of exophthalmic goître with severe tinnitus aurium bromide of potassium was prescribed in full doses. At first the patient seemed to get some relief from the remedy and it was employed for several months; during this time the patient had severe mental excitement with true delusions. The use of the remedy was discontinued and in a few days the mental excitement subsided, with a marked increase of the tinnitus. Strontium bromide was substituted, with full as good effect upon the symptom, and the patient continued to take it for three months, with no return of the mental excitement; the delusions continued, however.

Strontium iodide, says Dr. Briggs, is incompatible with solutions of the sulphates and carbonates of sodium, potassium, and calcium, but is not incompatible with other iodides.

It is an excellent tonic and alterative, he adds, and may with safety be prescribed in any case where the potassium salt is indicated. In quite an extended use of the drug he has never known it to induce the gastric irritation or palpitation of the heart so common in the administration of iodide of potassium in full doses. Its effects in catarrhal asthma, chronic bronchitis, and cardio-pulmonary affections have been most satisfactory. The drug is quickly eliminated by the kidneys, the strontium seeming to supplement the action of the iodine by its own peculiar action on the functions of nutrition. From his observations of the action of the iodide Dr. Briggs is satisfied that it is safe to prescribe it as a substitute for the potassium salt, and, while the dose is about the same, the remedy can be pushed to a dose far beyond the limit of safety with the potassium salt, and that without fear of producing symptoms of intolerance.

In two cases of albuminuria of pregnancy, in which the author made use of the lactate, the most gratifying results followed. In one case in which there were severe headache, insufficient urinary discharge, general dropsy, and the symptoms of uræmia present, and diuretics, purgatives, and diaphoretics had signally failed to give relief, the lactate was substituted in fifteen-grain doses every four hours, with a marked diminution of all the symptoms and with a decrease of more than half the amount of albumin excreted within forty-eight hours. The improvement in the general condition of the patients was noted from the beginning of the treatment.

In several cases of cystitis in the aged, due to hypertrophy of the prostate, the drug was given in connection with buchu, with marked amelioration of the symptoms. Although, he says, the lactate does not seem to possess any diuretic properties, nevertheless its action upon the urinary organs seems to be salutary in the extreme.

The Loomis Sanitarium Training School.—The physician in charge, Dr. J. Edward Stubbert, informs us that on Saturday, January 15th, a training school for nurses was opened at the Loomis Sanitarium in Liberty, New York. The opening class had thirteen members. Miss Helen Kimber, a graduate of the Bellevue Training School, is the superintendent. The opening address was made by Dr. H. P. Loomis, professor of materia medica in the university of New York. While these nurses will receive regular training as in other schools, says Dr. Stubbert, special attention will be paid to instruction in the care of patients with tuberculosis. This departure in the way of training is a new one, he says, and is justified by the ever-increasing demand for nurses for this class of patients. It is believed that such nurses can be constantly and advantageously employed in health resorts and as traveling companions for young people in the incipient stages of the disease. The course will be of two years' duration.

Fort Collins as a Health Resort.—In the *Western Medical and Surgical Gazette* for January Dr. E. A. Lee states that he is fully persuaded that the great majority of invalids, coming, as they do, from near sea level, are not warranted in going to a greater elevation than 4,500 or at most 5,000 feet, and even this altitude may be productive of more or less discomfort for a time. Another serious error, he says, frequently committed by persons going to Colorado is that of making their stay too short and mistaking relief for cure.

Cities or large towns, as a rule, are not desirable for invalids. The atmosphere of these places is contaminated more or less by the aggregation of their inhabitants and also by the dust, smoke, and vapors incident to their manufacturing interests, and the noise, confusion, and excitement of such surroundings are not conducive to the quiet restfulness so beneficial to persons in ill health. One of the commonest causes of complaint, says the author, is the sterile, barren aspect of the country in Colorado. But this, he thinks, might be obviated by selecting for invalids the agricultural portions of the State, and it is well known that in parts of the Rocky Mountains there are to be found many beautiful valleys combining the variety and advantages of river, hill, and plain with pure air. It is always cool from contact with perpetual snow, and there is brilliant sunshine during the greater part of the year. Dr. Lee states that he has found Fort Collins to possess all these advantages to an unusual degree, and it seems to him that there are very great inducements to attract health-seekers to that locality.

Of this place Dr. Lee says: "As an invalid resort this comparatively virgin soil has never been advertised and, being off main lines of travel, comparatively few invalids have formerly come here, hence those coming here are exempt from the depressing influence of seeing and mingling with large numbers of sick and noting the suffering and death of fellow invalids, which is so common in places where large numbers of sick persons congregate. In the way of business opportunities, for those who are sufficiently well to be interested in that phase of the question, it is a pleasure to be able to assure them that such light occupations as fruit and berry culture, poultry-raising, bee-keeping, market-gardening, dairying, and fish-culture can be very successfully and profitably engaged in. Irrigation and agriculture in this vicinity have perhaps reached a higher degree of excellence than in any other portion of the country.

"As for good and wholesome food, no market in the State can show a better supply or a greater variety of edibles than we enjoy. In garden products nothing better could be desired than gardeners here obtain in compensation for their labor. From what has already been demonstrated in the growing of fine berries of all kinds, apples, cherries, plums, etc., it is not at all improbable that the region about Fort Collins may, in the near future, become as noted for the excellence of its fine fruits and vegetables as it is now for wheat, alfalfa, and fine lambs. As a result of good pasture lands and fine flowing waters, dairy products of milk, butter, and cheese are obtainable in that fresh, pure state so palatable and so much desired by invalids, especially those confined by their ailments to indoor lives. When the condition of the invalid is such that outside exercise and easy movement are prescribed or thought advisable, there are no more beautiful roadways to be found than we can boast of during almost the entire year, thus giving pedestrians and cyclists every incentive to indulge in their preferred exercises, while the miles and miles of wide and level roads leading off in all directions around and about us afford unusual facilities for viewing the country in carriages or on horseback in the delightful mornings and evenings of our excellent climate.

"Should this grow tiresome, and the invalid become town-weary, the foothills and mountains are close by, with their pleasant, healthful, and hospitable resorts always open to the tourist.

"As another element of attraction here offered for the convalescing, I may mention that from a certain point on the adjacent hills may be seen, in enchanting view, sixty-five lakes, most of which supply good fishing, and many of them are well stocked with cat, dase, black bass, and other game fish. These same lakes afford sport with boat and dog and gun, as well as rod, thousands of water fowl being taken from them during the open season every year, while the mountains, easy of access, shelter the greatest abundance of large game now found in any part of the United States. To see and enjoy all this forms a strong incentive to get well, and often supplies the invalid with a marvelous recuperative power.

"Another item is well worth consideration by invalids and their advisers. It is conceded, and, as I believe, with good reason, that the Poudre Valley is unusually exempt from winter storms as compared with most parts of Colorado. This appears to be accounted for by the fact that there are no high mountain peaks in its immediate vicinity. For it is well known that storms gather and are formed about the summits of these higher peaks and descend to the adjacent valleys with great frequency and severity.

"Included in the hundreds of very delightful places within our county limits is the far-famed Estes Park, which for scenic effect is considered by noted travelers to have few equals in any part of the world.

"What untold misery and suffering could be avoided if we could, by some united effort, impress on the minds of the thousands of parents scattered over the United States, who have children predisposed to diseases curable by climatic influences, that by bringing these children to Colorado while yet young, and having them lead outdoor lives, they would grow up with a good degree of physical vigor, attain fairly good health, and thus be enabled to meet the cares and responsibilities of life!

"In conclusion, I do not hesitate to express my conviction that no greater responsibility rests upon us as physicians than we assume in recommending health resorts or places of sojourn for the sick. Upon our suggestion often depends their weal or woe; hence I invite an earnest discussion of this subject, and ask that due consideration be given to the claims I have thus cursorily advanced in favor of the beautiful Poudre Valley and no less beautiful city of Fort Collins."

A Few Suggested Additions to the British Pharmacopœia.—In the December number of the *Medical Chronicle*, Dr. Arthur T. Wilkinson writes as follows: "The present *British Pharmacopœia* is the heirloom of the profession, and a very valuable heirloom. It has already been touched up, but to match modern medicine I think it still needs considerable reconstruction. The mere addition of certain compound preparations to the *Pharmacopœia* will not suffice. We need a revision of the forms in which the drugs are preserved and presented. The time for a change is almost ripe, and I think the leaders in this department might turn their serious attention to the matter. For example, the embarrassing properties of nitroglycerin have led to its presentation as a tabella. Why should not the convenient compactness of the tabella recommend it as a suitable vehicle for the administration of other drugs? We prescribe granules of digitalin; why should not several of our active principles and alkaloids be officially served up in like form? The globules, tabloids, jelloids, palatinoids, capsules, and what not, at present in the market, suggest ways by which the older preparations might be supplemented or supplanted. We could also do with an innocent, well-flavored, soft, or at any rate easily masticated, lozenge, with which any prescribed drug could be incorporated.. Indeed, although the present method of indicating by special preparations in what form the drugs are most advantageously dispensed be adhered to, it would not be amiss to supply, in the *British Pharmacopœia*, formulæ for each of the elementary preparations in which the excipients are alone included. This would leave the prescriber absolutely free in his choice of the active ingredients, and thus enable him to keep to the *British Pharmacopœia* while avoiding the everlasting mixture and pills. The above change would not only conduce to the comfort of the patient, and thus insure the taking of the medicine, but also secure exact dosage, and therefore effective action. Surgery substitutes for the uncomfortable bundle of pads and wrappings, popularly applied to stop hæmorrhage, a neat, definite ligature. Medicine should be equally in advance of popular procedure.

"And now in the few moments left to me I will give some brief jottings suggested by hospital practice, or the exigencies of family life. To save the time of patient and dispenser we need a stable solution of butyl-chloral hydrate to correspond with the syrupus chloralis hydratis. Though prescribed with glycerin, I have more than once seen the crystals undissolved at the bottom of the bottle. Had we such a preparation, I believe this drug, specially valuable through its action on the fifth nerve, would be more widely used. For similar reasons I advise a preparation of the so-called oil of male fern, saponified with senega, and suitably flavored. It could be made as required, and would, to many practitioners, give information as well as help. This should prove a temporary addition, as one may reasonably hope that pharmacy will soon simplify this nauseous extract, so that it can be given as lozenge or tabella. Even now the capsule might be indicated as an alternative, unless an importation of Abyssinian kousso honey drives the drug from the field.

"I often employ the liquor carbonis detergens in the form of ointment. Why not have an alcoholic solution of tar of our own?

"In this connection I may add that we need a revision of our ointment bases. I do not now refer to the introduction of lanolin, but to the definition of the hard and soft paraffins. The two *British Pharmacopœia* paraffins do not mix well, and it might be of advantage to establish three degrees of consistence. Anyhow, the present arrangement is open to improvement. Most preparations made with paraffinum durum are too hard. Applications to the skin remind one of the old friar's balsam; a simple tincture of benzoin and a good antiseptic varnish are desiderata. Could we not also with advantage add to our flavoring agents, and let it be definitely stated in what class of combinations each is most appropriately used? In old days this part of our medical education was neglected; we are as tired of peppermint and orange and ginger as most of our patients, and the ways of cinnamon are known but to few. A greater variety would be a boon. Several essences, from vanilla downward, are used by the confectioner, and some might be imported into the *Pharmacopœia.* The Americans are, I believe, in advance of us in this respect.

"When I attack a case of spasmodic asthma why should I have to confess that the powders which give the greatest relief during the attack are outside the *British Pharmacopœia?* I prescribe them; you prescribe them. If there is no objection to it let us go on doing so, but I should much prefer an official pulvis of known composition. I grant that hitherto our attempts to provide such substitutes have not been particularly successful. The tinct. chloroformi et morphinæ co. is distinctly inferior to the chlorodyne manufactured in Manchester. Unless we can provide an efficient alternative, it is better to leave the remedy among the candidates for admission, until it is stripped of its proprietary dress, and deigns to don the official robes. I see no objection to the introduction of a simple drug of certain composition, like antipyrine, even though its manufacture is the monopoly of a firm. It is in the case of secret patents, and of nostrums composed of well-known drugs pleasantly flavored and spicily advertised, that one would emphatically close the doors. Where, moreover, a drug is common property, it would be invidious to specify the preparation of any one particular person or firm.

"The *Pharmacopœia* largely ignores the fact that we doctors are family men, and that it is undesirable that our children should regard us as the purveyors of abominable potions. In spite of dietetic rearrangements some children need aperients. We can give, but we do not want to be always giving, gray powder and calomel. Castor oil and Gregory's powder simply teach the child to hide its needs, and are unsuited to chronic cases. Where children will ask for syrup of figs and tamar indien—they will not for pulv. glycyrrhizæ co.—why should I not be able to satisfy their desires out of the *British Pharmacopœia?* Surely our experts could provide some compound syrup, or non-alcoholic preparation, on the lines of the American elixir, made with suave cascara and senna pods. Why not also introduce a solid preparation on the lines of the tamar indien, the novelty of which is almost entirely one of dress?

"When recently revising the *Manchester Infirmary Pharmacopœia* I was surprised to find how difficult it was to secure a suitable and yet stable preparation containing iron and sulphate of magnesium. Many were tried, and none proved ideal. I think our book of wisdom might reasonably supply formulæ by which the leading tonics can be combined with the greatest grace and stability. It is true that the primary object of the *Pharmacopœia* is to insure the purity of our drugs. It has, however, already added to this function, and in its compound powders, tinctures, mixtures, etc., calls our attention to the most appropriate association of remedies."

Soil Disturbance and Malarial Fever.—The *Indian Medical Record* for December 16th contains a long article on this subject by Dr. R. R. H. Moore, of Jalapahar, Darjeeling, of which the following is the substance: Disturbance of the soil, he says, has come to be regarded as a frequent cause of malarial fever. If it is simply meant that malarial fevers have been known to break out in certain places coincidently with extensive disturbance of the soil in connection with canals or railroads, no objection can be offered, for this is a fact beyond dispute; but it is equally well known, he says, that these works interfere seriously with the flow of the subsoil water, causing it to rise and produce a water-logged condition of the soil, or even a marsh, and these marshy conditions almost invariably produce malarial fevers; it is, therefore, evident that it is to these conditions the malarial troubles are due, and not to the mere disturbance of the soil.

Concerning the views of the different writers on this subject, the author states that the well-known authorities, Kelsch and Kiener, are somewhat more explicit than their English *confrères;* they freely acknowledge that soil disturbance produces malarial fever by interfering with subsoil drainage and the consequent formation of artificial marshes, and they also appear to favor the idea that the disturbance of the soil releases a specific poison, but even they do not sufficiently distinguish between these two very distinct phenomena, and while bringing forward plenty of evidence in support of the former very obvious method of causation, they leave the latter pretty well to take care of itself.

The following quotations, says Dr. Moore, from their *Traité des maladies des pays chauds* show this plainly enough:

Regarding railway construction, they say: "Fevers appear either when these works are in progress, on account of the disturbance of the soil, or when they are completed, from the stagnant water which fills the hollows accidentally dug out for the formation of the embankments, and forms a sort of artificial marsh."

Again, "If marshes possess all the necessary factors for the production of malarial affections, these conditions may also be created by the disturbance of a previously healthy soil, so that every place where the soil is of recent formation may on occasion become a focus of malaria."

No further distinction is drawn between the two methods of causation, continues Dr. Moore, and, strange as it may seem, it is only too apparent that it never occurred to the authors to draw any distinction at all, and the fact that they have done so in the first quotation is merely fortuitous.

The following are two of the samples given by them of malarial fever caused by earthworks:

"Dr. Botrel, in his report upon the disastrous endemic of malarial fever in the Department of L'Ille-et-Vilaine, expresses his regret that the hand of man should assist in aggravating it, and in support of this view points to several ponds, extending along the railroad, the result in a great measure of the work of construction and embanking. These artificial marshes dry up in the heat of summer and give rise to fevers, to which the personnel of the railway fall the first victims."

"In 1881, Dr. Evrad announced in the midst of the inhabitants of Grand-Bruneval (Commune of Wallins, Oise) where malarial fever had never been known within the memory of man, an epidemic of intermittent fever which spared no one, and which was caused by a marsh, the result of works undertaken by the Northern Railway Company."

These cases, and all the others given by the authors, with perhaps one or two exceptions, says Dr. Moore, simply prove that in France marshes, whether natural or artificial, cause malarial fever; but to bring them forward to prove that soil disturbance causes malarial troubles is a simple misuse of terms.

Dr. Moore states that in Algiers frequent outbreaks of malarial fever in connection with soil disturbance have been reported, chiefly when agricultural colonies were being founded. M. Armand, he says, in his very able work *L'Algérie médicale,* writes as follows:

"Why, when the soil is disturbed at the founding of a village, say in the middle of a plain, do these fevers usually become more prevalent? And why, two or three years after the village is constructed, does the state of health improve greatly in the same place?

"This need not surprise any one who knows what happens in such a case; in spring, most frequently, a party marches out and camps at some point in the plain of Chélif, of Sig, of Seybouse, etc., to found an agricultural colony."

"In the midst of a vast stretch of treeless land, these men must toil laboriously under a burning sun, against which a tent offers no protection. . . . They are exposed to the full force of the sun all day, and find the opposite extreme in the cold and damp air at night; their food and drink are inferior to what they are accustomed to in their quarters.

"In fine, defective food, less refreshing sleep, exposure, more continued and more direct to the vicissitudes of the climate. . . . Once begun, these works can not be interrupted, and, while the troops employed on other duties return to barracks in June or July, the rising colony remains exposed during the endemio-epidemic season."

"Considering that the fact of being in camp all the summer has a deteriorating effect upon the health of the men, even when no work is done, how much more will the effect be felt, when all the fatigue attending the establishment of a colony has to be encountered!"

"The work of installation and construction does not involve as much disturbance of the soil as the subsequent tillage of the land, yet it is during the first summer that the state of the men's health is least satisfactory."

There is, continues Dr. Moore, a close resemblance between the conditions described here and the conditions affecting the troops in the early days of Hong-Kong, and the parallel may easily be extended to the men in encampments.

In the agricultural colonies in Algiers, as in Hong-Kong, the greatest amount of fever did not correspond with the greatest amount of soil disturbance, a point absolutely indispensable if the two things are to stand in the relation of cause and effect, while in the three cases the men were living under conditions of great exposure and badly housed.

It appears, then, that there are three distinct categories in which all the cases where soil disturbance has been accused of causing malarial fever may be placed:

1. Where the disturbance of the soil has interfered with the subsoil drainage and caused a marsh or an allied condition.

2. Where outbreaks of fever have been coincident with works executed in the soil, but not due to the simple disturbance of the soil.

3. Where malarial fever has been caused by a specific poison, released and brought into evidence by the breaking up of the soil.

Of cases that fall within the first category there are plenty, but, Dr. Moore says, it is a misnomer to speak of them as caused by soil disturbance.

Of the second class there are also plenty; they belong to the type of a gentleman previously mentioned, who contracted the fever by digging in his garden. These cases are valueless.

That malarial fever is caused in the manner specified in the third category there is not sufficient evidence to show.

The Treatment of Neurasthenia.—According to M. A. Fauvet, in the *Gazette hebdomadaire de médecine et de chirurgie* for December 26th, isolation is the proper treatment to resort to when neurasthenia is accompanied by symptoms of lowered nutrition and muscular weakness, and when a prolonged rest in bed is insufficient to arrest the emaciation. This, he says, is the principal element of the method of Weir Mitchell, Playfair, and Burkart. In France it has given the best results in the hands of Lemoine, Bouveret, Ballet, and especially Déjerine.

Isolation, continues M. Fauvet, is not only indicated in the grave form spoken of, but should be prescribed whenever the patient's home surroundings become, on account of the exaggerated solicitude of the family, prejudicial to his recovery. There is no use in prolonging a treatment which is not carried out accurately, and is subjected to the criticism or the commendation of the patient's family. This applies especially to women. According to Burkart, the patient should have a fund of mental energy and possess a certain intelligence for the aim pursued, and these two conditions are rarely found in neurasthenic women; hence they are peculiarly amenable to isolation. These conclusions are not applicable in all cases. Women who present symptoms of excitability, who suffer from visceral pains or neuralgic pains in the limbs do not benefit from the treatment. Success is also rare in men, in whom, however, motor asthenia is rarely pronounced enough to require a prolonged stay in bed.

Isolation, says M. Fauvet, becomes absolutely obligatory when to the fundamental troubles of nervous exhaustion are added intoxication, morphinism, the chloral habit, the opium habit, ethylism, etc. In such cases the patient receives only the visits of the physician, whose rôle is complex and delicate. He may, however, be aided by the nurse, who should be sufficiently intelligent and of a good character. She should be amiable, kind, and capable of holding the patient's attention by conversation and reading, and of helping her bear patiently the physician's commands and the weariness of a long isolation; she should also possess enough firmness and tact to exercise a certain ascendency over the patient and insist without harshness on the discipline of the treatment.

The other factors of the treatment are excessive feeding and rest in bed. The latter is necessary during the first six weeks of the complete treatment. In the first stage and in certain cases, says M. Fauvet, Weir Mitchell does not allow the patient to sit up, to sew, to read, or to write in bed. To obviate the inconveniences of this immobility, passive exercise, that is, massage and electrization, should be practised, although in as restricted a manner as possible. With regard to the overfeeding, it consists especially in the progressive administration each day of three, four, five, and six pints of milk. Occasionally, at the end of a few weeks, one or two eggs a day may be added to the milk diet. The considerable quantity of milk given to the patient must be taken in divided amounts, for it is necessary to maintain the stomach in a condition of comparative rest.

The results obtained by the rigorous application of this method, says M. Fauvet, are most conclusive. Relapses are rare, and recovery in from three to six months is the rule. The probable reason of the success of isolation, the author thinks, is that it is directed to the ætiological nature of the disease, and to the clinical character of its grave forms, the dominant symptom of which is cerebral depression.

Orthoform.—Einhorn and Heinz (*Münchener medicinische Wochenschrift*, August 24, 1897) state that orthoform induces anæsthesia of only those parts with which it comes in contact, and has no effect when applied to the unbroken skin. If it is applied to a burn of the third degree, the anæsthetic effect is remarkable. When compared with boric acid it has been found to be much more efficient. It allays the pain of ulcers, whether cancerous or other. In one case as much as seven hundred and fifty grains was sprinkled on a wound within a week, showing that it is quite harmless. It is strongly disinfectant, hindering decomposition and fermentation. It has been found useful in ulceration of the larynx; after some of the powder is blown in, the pain is relieved for twenty-four hours. In gastric ulcer and carcinoma it is also of service, but much less so in chronic gastric catarrh. For external use the free orthoform is the best, but for internal use the soluble hydrochloride. Further observation is needed in regard to its action on the mucous membranes of the mouth, nose, and nasopharynx. As it is non-poisonous, it may be applied to large ulcerating surfaces. Internally, from seven to fifteen grains of the hydrochloride has been given several times a day.

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Original Communications.

DIFFICULTIES IN DETERMINING THE CAUSES OF COMA.

By J. T. ESKRIDGE, M. D.,

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(*Concluded from page 141.*)

Group V. Voluntary Coma. *Feigning.*—Malingerers occasionally feign coma, but more commonly the simulated coma is preceded by convulsions. Under the heading "Feigned Epilepsy" I have said:

"Everything usually observed in an epileptic fit may be easily simulated by a clever malingerer, except the change in the color of the face, the condition of the pupils, and insensibility to suddenly inflicted and unexpected irritation.

"*Color of the Face.*—A simulator by muscular action can produce redness of the face, and by holding his breath this color will change to a darker hue. It is very difficult voluntarily to cease breathing until the face becomes deeply cyanosed, as occurs in genuine convulsions. It is rare for a simulator to be seen sufficiently early for the absence of paleness of the face to be noted.

"*Condition of the Pupils.*—In the early stage of the fit the pupils are said to be occasionally contracted. If this phenomenon is present, it must be very evanescent in character, as I have never succeeded in exposing the eyes sufficiently early to find the pupils contracted. At all events, during most of the tonic stage and throughout the clonic the pupils are dilated, and the irides will not often respond perceptibly to light. As consciousness begins to return the extreme dilatation passes away, and the pupils may alternately contract and dilate every few seconds.* Personally I have not seen a genuine epileptic convulsion during the height of which the irides responded to light.

"Keen, Mitchell, and Morehouse, in the article on malingering previously referred to, state: 'We ourselves are of the opinion that when, in a fit, the pupils, largely dilated, remain impassive and motionless before a bright light, the case is almost certainly a real one. But, unfortunately, this state of things is of very rare occurrence, even in severe fits. The pupils unquestionably contract in the presence of a bright light in many such cases. Sometimes the movement is sluggish and slight, in others it is almost normal as to range and speed of movement. These observers experimentally demonstrated that violent muscular action will cause the pupils to dilate rapidly, and that so long as the muscular action is kept up the irides will move only slightly and sluggishly to a bright light.* From their observations they deduced the conclusion that only in those cases of epileptic fits in which the irides fail absolutely to respond to light is the pupillary test of the genuineness of the convulsion of any value whatever.

"*Insensibility to Suddenly Inflicted Irritation.*—In the unconsciousness from an epileptic convulsion, if the cornea is touched with the end of the finger, the eyelids may move a little, and if the supraorbital nerves are firmly pressed with the thumbs the skin of the forehead may slightly corrugate, or, if a pin be thrust into a limb, it may be flexed, but no purposive movements will be made to get rid of the irritant. In feigned epilepsy, if sudden and unexpected acute pain is caused, an intelligent effort will, at first, be made by the simulator to avoid the irritant." †

When the feigned coma is not preceded by simulated convulsions the pupils will be normal, unless the malingerer is throwing himself around and making considerable muscular exertion, thus causing the pupils to dilate and lessen their normal response to light. The color of the face is usually flushed, showing the results of physical effort. Under such circumstances, if the malingerer lies quietly, the pulse, temperature, and pupils will be normal. Respiration will be rapid or slow, according to the subject's notion of feigning unconsciousness.

Sensibility to suddenly inflicted pain, if the simulator knows nothing of what the observer is doing, will be manifest. The administration of an anæsthetic is probably the best method of detecting feigned coma as well as epilepsy.

Group VI. Coma from Profound Disturbances of the Cerebral Circulation, but unattended by Organic Lesion of the Brain Substance. *Coma from Shock and Concussion of the Brain.*—In the severer forms of shock, consciousness may be completely lost. It immediately follows the depressing influences that have caused it. The pupils are usually dilated, muscles relaxed, face pale, surface of the body cool, temperature lowered, pulse weak and rapid, sometimes slow and irregular, respirations shallow and often frequent; sphincters are sometimes relaxed and vomiting may occur. In fact, the normal functional activities of all the organs of the body are lessened. Recovery, when it begins, is progressive. It is to be distinguished from so-called "delayed shock," which comes on some time after the injury, and shock followed by delayed or imperfect reaction, both of which are due to concealed hæmorrhage or some other complication.

When the shock has been caused by a blow on the head, it is not always an easy matter to determine whether the symptoms are due to shock or cerebral concussion, or to these and an intracranial lesion. The absence of any localizing symptoms, and the presence of slightly subnormal temperature, equal in each axilla, a weak and rapid pulse, noiseless respiration, with evidence soon after the injury of beginning reaction, which is continuous after it has become manifest, point toward the functional nature of the brain trouble. It is sometimes impossible to exclude organic disease of the brain in these cases until hours or days have elapsed, and even then the physician may be in doubt. In those cases in which the coma or semicomatose condition lasts for several days or weeks, even in the absence of all positive symptoms of an organic nature, it is probable that laceration of the brain has occurred or slight capillary hæmorrhage into the brain substance has taken place.

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* Gowers states that this phenomenon was first pointed out by Reynolds.

* I have verified the accuracy of this observation.

† *American System of Medical Jurisprudence.* Edited by Walter Haines and Frederick Peterson. Now in press.

Coma from Cerebral Congestion.—It is rare for coma to result from cerebral congestion unless the cause be insolation or the vaso-motor disturbance found in paretic dementia. The lighter forms of cerebral congestion, passive or active, sometimes pass into a stuporous condition. In either event the coma is gradual in its onset, and is often preceded by headache and delirium. In the active form there will be the history of exposure. The face is flushed, the carotids throb; the pulse is rapid, full, and strong; temperature elevated, pupils contracted, conjunctiva injected. There are no localizing symptoms, and the attack soon ends in recovery if inflammation does not result, or the patient is not exhausted by the hyperpyrexia. In the passive form, the appearance of the patient's face indicates venous stasis. The respiration is rapid and noisy, pulse rapid, and temperature is elevated one or two degrees above the normal. If death does not result, recovery soon takes place. In neither form of congestion are there any localizing symptoms or evidence of cranial nerve involvement. Meningitis would be excluded by the absence of rigidity of the posterior neck muscles and cranial nerve symptoms, together with the history of the case. A vascular lesion would be negatived largely by the absence of unilateral symptoms.

Coma from cerebral anœmia is most commonly caused by sudden loss of blood. The appearance of the patient and the condition of the temperature and pulse would be just the opposite to those of cerebral congestion. Delirium and convulsions often occur if the loss of blood has been sudden and profuse. The diagnosis is usually evident from the history and symptoms.

GROUP VII. COMA FROM ORGANIC DISEASE OF THE BRAIN. *Coma from Simple Apoplexy of the Aged.*—In persons advanced in life, a condition sometimes occurs with a train of symptoms that perfectly resemble those of a vascular lesion of the brain, but at the autopsy no trace of hæmorrhage or other gross lesion is found. The age of the patient and the history of previous similar attacks would aid in the diagnosis. It must be confessed, however, that a first attack of "simple apoplexy" might puzzle the most skilled diagnostician, especially if unilateral symptoms, as sometimes is the case, are present.

Coma from Traumatism of the Brain.—If an injury has occurred to the head and coma results, the diagnosis will lie between simple concussion or shock and an organic lesion of the brain. Delayed coma—that is, coma coming on some time after the receipt of the injury—deepening coma, and delayed reaction from a deep comatose state, would be almost positive evidence of organic intracranial trouble, usually vascular in nature. Coma coming on immediately after the injury may be due to an organic lesion or a functional disturbance. The sooner that reaction begins to take place, and the more complete it is a few hours after the head injury, the greater the probability of the trouble being functional in nature. Stertorous respiration, congestion of the face, slow, full pulse, unilateral symptoms, and convulsions would indicate intracranial hæmorrhage.

Coma from Meningitis.—In the absence of a history, the diagnosis would depend upon rigidity of the posterior neck muscles, cranial nerve involvement, heightened temperature, irregular respiration, and slow and irregular pulse if pressure symptoms were still present, but rapid pulse if the stage of exhaustion had been reached. Changes in the optic discs might or might not be present. If the case had been of short duration the discs might show simple hyperæmia, or, if a rather prolonged course of the disease had preceded the comatose condition, beginning of optic-nerve atrophy might be manifest. Optic-nerve changes would enable the physician to exclude all vascular lesions, except possibly thrombosis. Choked disc, with evidence of meningitis, would indicate that the meningeal inflammation was secondary to tumor or abscess. The greater the swelling of the disc the greater the probability of the primary intracranial lesion being a tumor. A tuberculous tumor or nodule is about the only growth of the brain that causes general meningitis.

Coma from Abscess of the Brain.—The history of the case, with a probable cause of intracranial suppuration, vacillating temperature, slight swelling of the optic discs, and unilateral symptoms, if these were present, would be the principal aids in the diagnosis. In the event that no history were obtainable at the time, as happened to me in two instances not long since, on what would a diagnosis have to be based? If optic neuritis were present, and the other causes of the condition, except tumor of the brain, were excluded, the diagnosis would be a matter of distinguishing between tumor and abscess. The greater the swelling of the optic discs, the stronger would the possibility be of the trouble being due to tumor. The greater the variation of temperature from the normal and the more profuse the perspiration during the comatose condition, the more likely would abscess be found. The terminal stage of abscess of the brain is usually attended with high temperature and the body is bathed in perspiration.

Coma from Tumor of the Brain.—It sometimes happens that one sees a case of tumor of the brain for the first time when the patient is in a state of coma. It may be the coma that immediately precedes death, or such a condition may occur any time during the progress of the intracranial growth, especially if it is located in the region of the cerebellum, so as to give rise to pressure on the veins of Galen and cause effusion into the lateral ventricles. Pronounced choking of the optic discs would suffice to settle the diagnosis in favor of tumor, provided that renal disease, anæmia, and lead encephalopathy had been excluded. It is only in those cases of tumor of the brain in which by extensive softening of the brain substance a vascular lesion is simulated by the coma and paralysis, that they come on suddenly and at the same time. In the absence of any history in such a case, the presence of choked disc would be the only guide in excluding a vascular lesion.*

Coma from Non-traumatic Vascular Lesions.—These include hæmorrhage and thrombotic and embolic occlusion of vessels. The coma that occurs as a result of a vascular lesion is, as a rule, sudden in its onset and more or less profound, depending upon the nature of the vascular disturbance. One of the most common symptoms attending the coma from a vascular lesion is hemiplegia. Having determined that the coma in a given case is due to hæmorrhage or occlusion of a vessel, it is of considerable importance, before treatment is instituted, to seek further and determine the nature of the vascular lesion; in other words, is it embolic or thrombotic occlusion or hæmorrhage?

Embolic Occlusion.—It is probable that we are never justified in diagnosticating cerebral embolism in the absence of an apparent cause. Endocarditis, chronic in nature, with subacute attacks of endocarditis, is the most common cause. The next most frequent cause is a suppurative process in some portion of the body, especially in the thoracic or abdominal cavity. The parturient state and the blood changes often found in chronic syphilis, with exhaustion, favor the formation of an embolism. The coma from embolism is shorter in duration and less profound than in hæmorrhage. In cases in which a more or less complete hemiplegia has taken place in a young person, without profound coma of several hours' duration, the chances would be against hæmorrhage in favor of embolism, except in certain conditions in which a thrombotic occlusion of the vessel would be more probable than embolism. The less the primary disturbance of temperature, provided the paralysis is extensive, the greater are the probabilities against the cerebral lesion being due to hæmorrhage.

Coma from Thrombotic Occlusion of a Cerebral Vessel.—Atheroma of the vessels, a potent factor in the causation of thrombosis, does not occur before the thirty-fifth or fortieth years, except possibly in association with Bright's disease or as a result of it. Syphilitic arteritis is a frequent cause of thrombosis from the twentieth to the fiftieth year, and it may occur earlier or later, but the frequency diminishes as the two extremes of life are approached. Thrombotic occlusion of a vessel may occur from the extension of an inflammatory process from a tuberculous nodule in the brain. I have observed two such cases. This is the rarest of all causes of cerebral thrombosis.

Some points in the diagnosis between coma of thrombotic origin and coma from hæmorrhage are here given:

THROMBOTIC OCCLUSION.	CEREBRAL HÆMORRHAGE.
1. Prodromes frequent.	1. Prodromes infrequent.
2. Great degeneration of the arteries of the limbs, or the history of syphilis.	2. Turgid face and strongly beating arteries of the neck.
3. Pulse soft and often very compressible.	3. High arterial tension, regardless of the size of the pulse.
4. Heart feeble, dilated, and irregular.	4. Heart hypertrophied and beating strongly.
5. Coma less marked in depth and duration.	5. Coma more intense and longer in duration.
6. Following grief and other depressing influences.	6. More likely to be induced by mental excitement.
7. Local convulsions more frequent.	7. General convulsions more frequent.
8. Slight initial temperature disturbance.	8. Often great initial temperature disturbance.
9. Slight variation of the temperature within a few hours.	9. Often a considerable rise of temperature from twelve to twenty-four hours after the attack.
10. Secondary inflammatory symptoms frequent and well marked.	10. Secondary inflammatory symptoms less in frequency and in degree.

A CASE OF PEMPHIGUS NEONATORUM

ASSOCIATED WITH A GENERAL INFECTION BY THE STAPHYLOCOCCUS PYOGENES.*

By L. EMMETT HOLT, M. D.

On December 19, 1896, there was admitted to the Babies' Hospital an infant nine days old with many bullæ over its shoulders and the lower part of its body. No history of syphilis was obtained in the parents or in two other children. The infant was brought from a home of great destitution and squalor, and had evidently been greatly neglected from the time of its birth. The mother was unable to nurse the child, and its food had been principally fennel tea, with occasionally a little milk and water added. At the time of admission it was said that the baby had had no food for twenty-four hours.

The child was certainly a vigorous one, for, in spite of this neglect, it was still plump and well nourished, weighing seven pounds twelve ounces, showing no evidence of its previous starvation. The body was exceedingly dirty, and looked as if there had been no bath

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* Eskridge. Tumor of the Brain simulating a Vascular Lesion. *Medical News*, March 10, 1894.

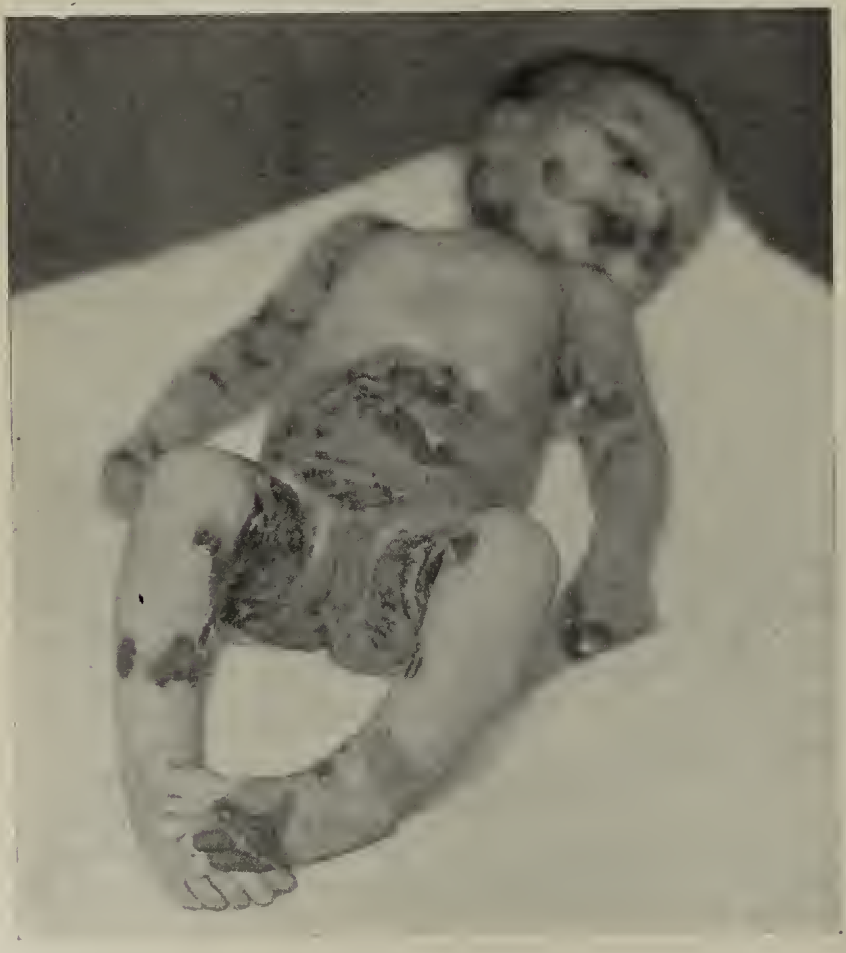
* Read before the Society of Alumni of Bellevue Hospital, November 3, 1897.

given for a week. The bullæ were chiefly about the shoulders, buttocks, and thighs. They were from a quarter of an inch to an inch in diameter; none were present over the chest or back, none upon the feet or hands, and only two upon the face. Some of them had evidently just appeared. These were flaccid, and had slightly turbid contents; others had ruptured, showing a deep red base formed by the cutis vera, and still others showed superficial ulceration and were discharging pus. There was a moderately severe purulent ophthalmia, with an abundant discharge of pus. The navel was normal; examination of chest and abdomen negative; pulse good; temperature, 98.2° F.

An examination of the pus from the eye showed an abundance of pus organisms, but no gonococci. The contents of one of the bullæ on the neck and another from the thigh both showed pure cultures of the *Staphylococcus pyogenes aureus.*

On the following day the general symptoms became worse; the morning temperature was 99.6° F.; the evening, 102.5° F. There was quite marked general prostration and many new bullæ appeared, especially over the lower part of the abdomen and the thighs, some of these being two inches in diameter.

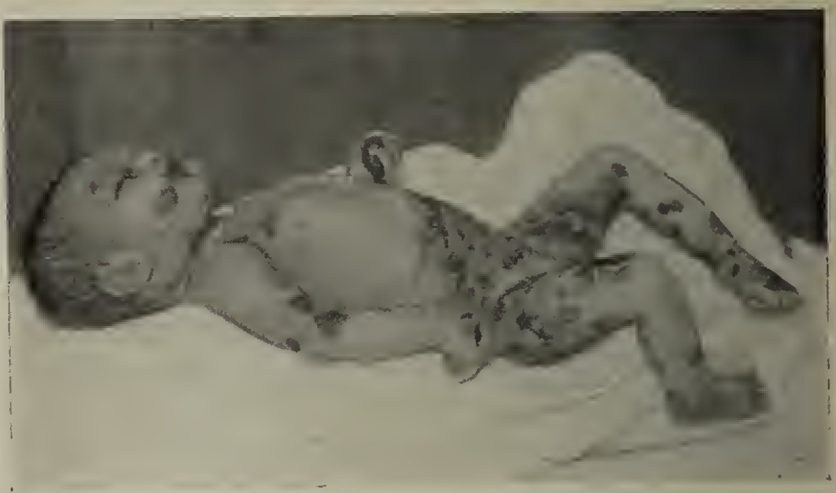
Upon the third day the child grew worse very rapidly and lay in a dull, semistupid condition, refusing food, and, in spite of free stimulation, lost steadily. New bullæ appeared in regions previously unaffected, especially over the forearms, legs, and feet. These came out with great rapidity, and often attained in twelve hours the size of an inch and a half in diameter. The epidermis would soon rupture, leaving an appearance much like that seen in a burn of the second degree. This appearance on the hands and feet is well shown in the illustrations. The temperature from this time ranged from 100.6° to 101.8° F., and death occurred from exhaustion on December 22d at 5 A. M., about sixty hours after admission.



The illustrations are made from photographs taken after death.

Autopsy and bacteriological examination by Dr. Wollstein and Dr. Cordes thirty-one hours after death.

The body was well nourished and showed an extensive cutaneous eruption. Brain moderately congested.



Larynx congested, and covered with a thin, grayish film, which peeled off easily, showing the reddened mucous membrane beneath. No membrane in the nasopharynx. Lungs: Large areas of atelectasis in both lower lobes, with emphysema anteriorly and many punctate hæmorrhages on the surface of both lower lobes, with much general congestion. Thymus: Many punctate hæmorrhages. Liver and spleen swollen and congested, otherwise normal. Kidneys intensely congested, Malpighian pyramids appearing almost hæmorrhagic. Suprarenals much congested, and showed small hæmorrhages. Mucous membrane of œsophagus and stomach intensely congested. Peyer's patches and the solitary follicles of the colon swollen and intensely congested, but mucous membrane generally normal.

Cultures from the lungs showed a *Staphylococcus pyogenes aureus* and the *Bacterium lactis aerogenes.*

The spleen and left kidney showed *Streptococcus longus;* the liver, *Streptococcus longus* and *Staphylococcus pyogenes aureus.* The bullæ upon the skin showed pure cultures of *Staphylococcus pyogenes aureus.*

Cultures of the *Staphylococcus pyogenes aureus* were injected into a mouse, which was found dead at the end of twenty-four hours. The same organism was recovered from the heart's blood and at the site of injection.

Regarding the use of few medical terms does more confusion exist than with respect to pemphigus. Ordinarily it is used to designate almost any cutaneous lesion characterized by bullous eruption. The acute form of the disease seen in very young infants certainly has little or nothing in common with the chronic form seen in older children and in adults.

Hereditary syphilis is responsible for a certain proportion of cases of pemphigus seen in newly born children, and many writers have been disposed to regard all these cases as syphilitic. The facts, however, do not warrant such a conclusion. In the case here reported there was no evidence whatever of syphilis, either clinical or pathological; but the symptoms during life, post-mortem findings, and the cultures all indicate a process of an acute general infection, of which the bullous eruption was only one of the manifestations. This bears out the findings of Strelitz and others, and shows that there are certainly cases of so-called pemphigus which are simply varieties of sepsis in the newly born. It is my opinion that many cases formerly regarded as syphilitic will be found to belong to this category.

14 West Fifty-fifth Street.

ABSCESS OF THE LIVER OF UNUSUAL ORIGIN.*

By ALEXANDER LAMBERT, M. D.

R. L., aged fifty-six years; cook; was admitted on July 29, 1897, and died on August 22, 1897. Family history negative. She had had a fever thirty years ago which lasted two weeks. Previous history otherwise negative. She had been a regular drinker of whisky.

Three weeks before admission she became overheated while ironing clothes, and nausea and vomiting, with a chill accompanied by fever and sweating, followed. There was pain in the abdomen, also any other symptom asked for. She had chills and fever every day, the bowels were irregular, and the appetite was poor.

A physical examination showed that the patient was poorly nourished and very anæmic. The lower edges of the ribs were compressed inward. The tongue was dry and red, and the pulse was small and frequent. The patient was stupid and apathetic.

The breathing was high-pitched and harsh over the entire surface of both lungs. There was dullness on percussion at the base of the right lung behind. The heart was not enlarged, there were no murmurs, and its action was rapid. The firm, sharp edge of the liver could be felt an inch and a half below the free border of the ribs. There was no tenderness on pressure. It seemed to be slightly enlarged. The spleen was apparently normal.

The bowels were constipated. The urine was of a clear amber color, with a slight mucoid precipitate, and acid. The specific gravity was 1.013; albumin, four per cent.; there was no sugar. Microscopical examination revealed pus cells and a few epithelial cells, but no casts. A week after admission the specific gravity was 1.016, and albumin eight per cent.

The patient took her nourishment well and slept most of the time. She never complained of pain and remained in a sleepy, apathetic condition. The temperature on admission was 102.4° F., the pulse 110, and the respiration 22. The temperature ranged from 100° to 102° F. for five days, and the pulse from 90 to 106. The temperature then came down slowly to 99°, following the administration of ten grains of quinine three times a day. It rose again, however, to 102°, and varied for two days between 98° and 102°. Then for ten days it ranged between 98° and 100°, rose to 103°, and for four days remained high, with one remission to 100°, then dropped to 97°, and until her death five days later varied between 97° and 102°, being usually highest at night, but never with any sudden rise or fall or chill. The pulse varied between 88 and 116; usually, however, it ranged from 90 to 100. Small fly blisters were applied to the epigastrium in order to obtain serum for Widal's test, but no blister could be raised on the dry, harsh, thick skin. The blood was tested and gave an absolutely negative reaction. The blood was very thin and watery. The patient gradually became weaker and more sleepy and apathetic, and died twenty-three days after admission. The diagnosis was chronic nephritis and cirrhosis of the liver, with unknown cause of the fever and death.

At the autopsy the following conditions were found: The body was emaciated, and the general muscular volume was small. There were extensive post-mortem discolorations over the abdomen, and post-mortem cyanosis over the entire posterior surface of the body. There were areas of vesication present over the epigastric region. The face, arms, and upper portion of the thorax presented large patches of yellowish pigmentation. Both pupils were contracted to a pin point.

The panniculus adiposus was small in amount and highly colored. The muscles of the thorax and abdomen were very small in volume, but were firm and of a fairly good color. The pericardial exposure measured four by three centimetres. The pleural cavities were free. There were no pleuro-pericardial adhesions present.

The heart was small, and it was surrounded by a small amount of light-colored adipose tissue. The epicardium was negative. The heart chambers were not contracted. The muscle was soft and light-brown in color. The aortic and mitral segments were slightly thickened, and other portions of the endocardium presented a few diffuse thickened areas. The arch of the aorta appeared to be slightly dilated, and the intima presented a few atheromatous areas. The coronary arteries showed endarteritis of a moderate degree. The heart weighed eight ounces.

The peribronchial lymph nodes were not enlarged. The mucous membrane of the trachea and bronchi was congested. The bronchi contained an abundant purulent secretion, and in places they presented spindle-shaped dilatations of small extent. The lungs were emphysematous, and the posterior portions showed extreme congestion, probably hypostatic. The apices on both sides presented several cicatrices, evidently healed tubercles. Three isolated calcareous nodules were present in the left lower lobe, also probably tuberculous in origin.

The inferior surface of the right lobe of the liver was densely adherent to the subjacent tissues, and on separating these adhesions a large amount of a greenish-yellow pus gushed from the lower surface of the liver. On removal, the right lobe of the liver was found to be completely riddled with communicating cavities of a large size. These pus accumulations were limited by dense walls of fibrous connective tissue, the inner surfaces of which were covered by masses of granulations and pus clots. These granulations did not appear to be tuberculous in character. The lower wall of the abscess cavity was formed by the dense peritoneal adhesions already mentioned, which glued the upper border of the stomach to the inferior surface of the liver. On close examination of the wall of the abscess cavity a pin incased in calcareous matter was dislodged from the wall of the main cavity. The pin was of the ordinary variety and measured twenty-seven millimetres in length. Both the head and the stem of the pin were incased in calcareous matter, so that it measured nearly three millimetres in diameter. The liver, as a whole, was not enlarged. The capsule was thickened and scarred. The left lobe was not involved in the suppurative process. It was of a light mahogany in color, and showed congestion with considerable increase of the circumvascular connective tissue. The weight of the liver after the pus cavities had been flushed out was two pounds and ten ounces. The pus was examined microscopically and showed bacilli and micrococci, but no cultures were made.

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* Read before the Society of Alumni of Bellevue Hospital, November 3, 1897.

The gall bladder was small and it contained a small amount of a light-yellow mucoidlike secretion. The spleen was not enlarged. The capsule was rough and thickened. It was firm in consistence and of a dark mahogany color. It weighed four ounces. The lesser curvature was involved in the plane of adhesions mentioned before. The stomach was small, and the mucous membrane was generally atrophied. At a spot situated ten centimetres from the œsophageal entrance and two centimetres anterior to the mesenteric attachment of the lesser curvature the mucous membrane was found to present an old circular cicatrix measuring fifteen millimetres in diameter. This area was surrounded by a ring of indurated tissue, but no evidences of recent inflammation were present. The base of the cicatrix was found to be very thin, and, although it was completely healed over, it was very evident that at one time perforation of all the coats of the stomach wall had been present. The process was undoubtedly an old one, probably of months' or years' standing. This ulceration was situated directly beneath the centre of that portion of the liver containing the abscess cavity. No peritoneal adhesions, aside from those already mentioned, were present. The intestinal coils were flaccid. Both large and small intestines showed quite extensive postmortem changes; no lesions were evident. The pancreas was small, and its tissue was firm and a dark pink in color. The adrenals were very small, and their tissue appeared to be largely fatty.

The kidneys were slightly enlarged. The capsules were thickened and generally adherent. The cortex was fairly thick and regular. The markings were distinct. They were firm in consistence. The cortical portions were light purple in color and the pyramids were considerably darker. There was a marked increase of the perivascular connective tissue. The right renal artery was plugged near the hilus of the kidney by a yellowish embolic mass. The capillaries and the small vessels of both kidneys were injected. The bladder was small and contained a small amount of turbid urine.

The uterine annexa were held by a few fibrous bands. The ovaries were atrophic, but the right ovary presented a cyst three centimetres in diameter, which contained a clear serous fluid. The tubes were normal. The uterus was small and its mucous membrane was atrophic. The fundus contained two small fibroid masses.

The skullcap was thin and asymmetrical in form, the arching being fuller on the left side. The depressions for the Pacchionian bodies and for the middle meningeal arteries were deep. The dura mater was somewhat thickened. The pia mater was very opalescent over the parietal lobes. The brain was asymmetrical. The right hemisphere was considerably smaller than the left, and the convolutions on this side were smaller and less perfectly marked. The vessels of the base showed considerably thickened walls. The cortical layer of gray matter was thin and irregularly distributed. The ependymata were normal. The tissue was firm and solid in consistence. The right lobe of the cerebellum was considerably larger than the left.

The spinal cord was not examined. The autopsy was performed by Dr. Harmon Brooks, pathologist to the Fourth Division of Bellevue Hospital.

NASAL BACTERIA IN HEALTH.*

By WILLIAM HALLOCK PARK, M. D.,
and JONATHAN WRIGHT, M. D.

There has been of late great difference of opinion among investigators as to the presence and abundance of bacteria upon the normal nasal mucous membrane. Professor B. Fraenkel in 1876, in Von Ziemssen's *Encyclopædia,* in his article on acute coryza, wrote: "A large number of those little structures, recently so much spoken of, and called micrococci, may generally be seen also covering the cells." He refers to Hueter (1) as maintaining these bodies to be the source of irritation in coryza. Herzog (2), in 1881, found many bacilli and cocci in normal and abnormal nasal secretions. Eugen Fraenkel (3), on the other hand, in 1882, stated that he could find no bacteria in the normal nose. B. Fraenkel (4), in 1886, found in the normal pharynx the *Staphylococcus pyogenes* and another micrococcus, the latter being apparently the same as found by Hack and Strauch (5) in the retropharynx. Löwenberg (6) and Hajek (7) failed to find micro-organisms at all constant or abundant in normal nasal secretions. Löwenberg (quoted by Thomson and Hewlett) has lately reiterated his observations in regard to the infrequency of bacteria in the nasal mucus. Reimann (8), in 1887, described two forms as nearly always found.

Having become interested in the subject, one of us, in 1888 (Dr. Wright), examined the secretions of ten healthy noses, and found a number of various forms which were differentiated by the bacterial culture methods then in use. The following is the table of a summary taken from the paper published at that time:

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* Read before the American Laryngological Association at its nineteenth annual congress.

	Staphylococcus pyogenes aureus, albus, and citreus.	Micrococcus flavus desidens.	Bacterium lactis aerogenes.	Penicillium glaucum.	Micrococcus cereus flavus.	Micrococcus tetragenus.	Different undescribed forms.
Case I.......	..	..	..	..	..	..	1
" II.......	1	..	..	..	..	..	..
" III.......	1	..	1	..	..	..	..
" IV.......	1	..	..	..	..	..	..
" V.......	1	..	..	..	..	..	..
" VI.......	..	..	..	1	..	..	..
" VII.......	1	1	..	..	..	..	..
" VIII.......	..	1	..	..	..	..	..
" IX.......	..	..	..	..	1	..	1
" X.......	1	1	..	..	..	1	1
Total........	6	3	1	1	1	1	3

No attempt was made at that time to estimate the number found in each case. That, of course, will always depend largely upon the amount of secretion obtained for each culture, and there was no accurate method of estimating that. The cultures were all taken from well beyond the vestibule. It is impossible for us to state positively that all chance of contamination while the platinum loop was passing through the vestibule was avoided, but the work was performed by one of us who was thoroughly familiar with both bacteriological and rhinological technique, and the general results are considered to have been correct. It will be seen that the *Staphylococcus pyogenes* was the bacterium most frequently found. These results conformed closely with those arrived at by von Besser (9) about the same time.

Besides many non-pathogenic forms, he found the *Diplococcus pneumoniæ*, the streptococcus, and *Staphylococcus pyogenes.* From the large numbers of the different varieties, he concluded that they must have multiplied in the nose. His investigations were made by means both of cover-glass preparations and of culture plates of agar-agar. The cultures were obtained from platinum loops introduced into the nose at a depth of three or four centimetres. He examined normal noses in thirty laboratory workers, twenty-seven persons convalescent from various diseases (not nasal), and twenty-three soldiers, servants, etc., making altogether a total of eighty cases. Plate cultures in one case showed eight colonies, in five cases fewer than twenty colonies, in five cases between twenty and thirty colonies, and in seven cases between thirty and a hundred colonies. In all the other cases cultures showed from a hundred to countless colonies. By double staining with fuchsine and methyl blue, Thost (11) found Friedländer's pneumococcus in his own and other normal noses.

Schubert (12), in 1889, reported the case of a person in whose nasal chambers there was an abundant growth of a mycelium.

Deletti (13), in 1891, examined three cases with normal nasal passages, and found, by culture methods, micrococci, tetracocci, staphylococci, and streptococci, besides aerial and other undetermined forms.

Weibel (14), in 1887, said: " On microscopic examination of the nasal mucus I frequently noticed the occurrence of crooked bacteria " in the back part of the nose.

Paulsen (15), in the physiological congress at Kiel, in 1890, asserted that he also, simultaneously with Von Besser, had found numerous bacteria in the healthy nose beyond the vestibule apparently, but of different non-pathogenic varieties. He also examined the nasal secretions in coryza, but did not find any micro-organisms which could be regarded as ætiological.

Strauss (16) has lately declared that he has proved that the tubercle bacillus is at least the occasional inhabitant of the nasal fossæ.

It will be seen by the references above quoted how contradictory the testimony is in regard to the presence of bacteria in the healthy nose. It is a common observation of the laryngologist and rhinologist that nasal and pharyngeal operation wounds, when they do not extend deeply into the tissues underlying the mucosa, rarely present any evidences of local sepsis, and symptoms of systemic infection are exceedingly rare.

Würtz and Lermoyez (17), in 1893, performed a series of experiments which, if accepted as free from error, lead to the conclusion that the nasal mucus in normal noses possesses a bactericidal power which would account for the usual non-septic course of operation wounds in the nose, but, both before and since these experiments, Lermoyez (18) has stated that occasionally bacteria, sometimes pathogenic, are found in the nose, and that precautions must be taken to prevent the occurrence of sepsis both before and after nasal operations.

These authors obtained mucus from the nose by placing in it little tampons of sterilized cotton, and allowing them to remain there until they became saturated with the nasal secretion. This colorless fluid was then squeezed into test tubes with aseptic precautions, and used for the experiments. We quote a passage from their paper which, translated, reads as follows: " We have used the mucus thus obtained, sometimes in its natural state, sometimes after having been sterilized by the procedure of Tyndall. Tyndallization in no way changes its characters; at the most, it only renders it a little more fluid and slightly more alkaline. The results obtained by us with the natural mucus and the tyndallized mucus were almost exactly identical. In fact, if one takes care to reject the first drops which come away from the nose, the nasal mucus which one obtains by excitation of the healthy pituitary membrane *does not generally contain any microbes.* We have many times verified this fact, which is in flagrant contrast with the idea which ordinarily obtains of the richness of the bacterial flora of the nasal chambers." They tested the bactericidal power of the nasal mucus upon anthrax bacilli, and sum up the results thus: " It follows, therefore, from these experiments that the human nasal mucus possesses, as concerns the *Bacillus anthracis,* considerable bactericidal power." This conclusion they arrived at by inoculating tubes containing the nasal mucus with virulent bouillon cultures of anthrax, and placing them in the thermostat for periods varying from two hours and forty-five minutes to three weeks. Gelatin plates made from these tubes showed no colonies of anthrax. Guinea-pigs inoculated from them remained healthy. All these experiments were controlled in the way usual to bacteriological technique.

They further say: "In a series of analogous experiences we have studied the bactericidal power of the nasal mucus upon other microbes—*Staphylococcus aureus, Streptococcus pyogenes, Bacillus coli,* etc.—we intend to return to these another time. At present we may say that the action of the nasal mucus is exerted very unequally upon different pathogenic agents; it does not seem to have upon several of them bactericidal power as energetic as upon the anthrax bacillus; nevertheless, upon all, or nearly all, its action is of a similar kind; the intensity only of its effects varies."

Thomson and Hewlett (19), in a carefully prepared paper, record the results of their examinations of the secretions in normal noses—seventy-six cultures in all from beyond the vestibule; of these, sixty-four remained sterile. Twenty-seven examinations were made of the vestibule, and of these cultures not one remained sterile. They say: "We submit as a summary of our experiments:

"1. That in all bacterioscopic examinations of the nasal fossæ, in all researches as to the action of the nasal mucus, etc., a clear distinction is to be made between the vestibule of the nose and the proper mucous cavity. The former is lined with skin and is furnished with hairs and with sudoriferous and sebaceous glands; it is not part of the nose cavity proper, but only leads to it.

"2. The neglect of this distinction may account for the discrepancies in previous observations on the subject. Contamination with the lining of the vestibule is difficult to avoid, even when this source of error has been realized.

"3. In the dust and crusts of mucus and *débris* deposited among the vibrissæ of healthy subjects micro-organisms are never absent. They are rarely scanty in number; as a rule, they are abundant.

"4. On the Schneiderian membrane the reverse is the case. We do not assert that micro-organisms are completely absent; obviously some must occasionally occur, but under normal conditions they are never plentiful; they are rarely even numerous, and in more than eighty per cent. of our observations we have failed to find any, and the mucus was completely sterile. These observations were limited to the anterior part of the nose, and, as not more than a fourth of the cavity is accessible to inspection and examination, it is reasonable to conclude that germs would be found still more infrequently in the deeper portions of the fossæ.

"5. The occurrence of pathogenic organisms must be so infrequent that their presence in the pituitary membrane can only be regarded as quite exceptional."

Subsequent observers who have written on the subject are Fermi and Brettschneider (20), who found a large number of micro-organisms in the nose, by far the most numerous of which was the *Sarcina alba.* Pathogenic forms were occasionally found, their number greatly increasing during a coryza. Piaget (21), on the other hand, a student of Lermoyez, has lately confirmed the observations of Thomson and Hewlett, as well as those of Würtz and Lermoyez.

Since the completion of much of our work we note, in a report of a meeting of the South German Laryngologists, at Heidelberg, taken from the *Münchener medicinische Wochenschrift,* that Klemperer (22) directly criticises the results both of Thomson and Hewlett and of Würtz and Lermoyez, and states that the interior of the nose always contains some germs. We have not had an opportunity of examining Klemperer's paper in the original. Apparently he adopted some of the precautions of technique which we have employed. He also failed to confirm the statements of Würtz and Lermoyez in regard to the bactericidal power of the nasal mucus.

The paper of Malato (*Archivio italiano di otologia,* vol. v, fasc. 4, 1897) comes to hand too late for careful perusal, but he appears to have found various bacterial forms in the cases he examined, and among them several pathogenic varieties are to be noted.

The criticism of Thomson and Hewlett seemed to point to a possible source of error in the work of Dr. Wright. It is a matter of the greatest difficulty in extracting mucus from the interior of the nose to be sure that a hair in the vestibule has not contaminated it. Recognizing this, and admitting the possibility of this source of error in the former investigations, we determined to go over the ground again. Dr. Wright selected a number of normal noses, carefully trimmed away the vibrissæ in the vestibule with sterile scissors, then wiped out carefully the vestibule and the external integument with a 1-to-2,000 solution of mercuric chloride, and made cultures from the nasal mucosa as far back in the nasal chambers as possible along the inferior and middle turbinated bodies and the sæptum. At first this was done with a platinum loop, but this was soon discarded for a slender steel rod wrapped at the end with absorbent cotton, and sterilized, a number at a time, in a glass cotton-stoppered tube. Just before using, the cotton at the end of the rod was passed rapidly through a flame, so as to burn off all little projecting fibres and singe the surface of the cotton slightly. The greatest care was taken that on withdrawal from the nose the mucus-soaked cotton did not come in contact with the vestibule or with a solid-bladed speculum, sterilized with carbolic acid (1 to 20). Any suspicion of failure in this regard caused a rejection of the rod, and a fresh one was used for a second trial. These swabs were then used to inoculate gelatin and serum tubes and agar and serum plates. These were turned over to Dr. Park for bacteriological examination. In some instances Dr. Park assisted at the clinical work; in some cases he did it alone; in others, Dr. Wright did it alone. Every effort was made to avoid all possible sources of error.

Results of Experimental Work.—The secretion from the normal or nearly normal nasal mucosa of thirty-six individuals was subjected to bacteriological examination. The amount of mucus was, as a rule, very small, and was usually taken from the lower middle portion of the middle turbinated bones.

The cultures were made upon agar, and sometimes also upon gelatin-blood-serum and blood-serum-agar.

The following are the results of the examinations in the thirty-six specimens: No bacteria developed in the cultures in six cases; less than fifty colonies developed in eight cases; more than fifty and less than a hundred in eight cases; more than a hundred colonies developed in fourteen cases; total, thirty-six cases. Apparently sterile, six cases; not sterile, thirty cases. Of these six sterile cases, in five the mucus was removed with a small platinum wire loop, and the amount of mucus was so small as to form a partial explanation of the negative results.

Two rabbits were killed. The calvaria and brain were rapidly removed, and access was gained through the floor of the skull, with antiseptic precautions, to the nasal cavities. The mucus thus obtained in both cases was found by cultures to contain abundant bacteria.

As was to be expected, the number and varieties of bacteria appearing in the cultures varied according to the media upon which they were planted. As a rule, the serum or serum-agar cultures showed the greatest number of colonies.

No attempts to identify the various forms of cocci and bacilli obtained from the mucus were made, except to search for streptococci. These were not found in any case. This was in marked contrast to the results obtained from bacterial cultures of the nasal mucus from a number of children living in an asylum. In sixty per cent. of these streptococci were found. The nasal mucous membrane in none of these was quite normal.

Bearing somewhat upon the bactericidal effect of the nasal mucus is the frequent long persistence of diphtheria and pseudo-diphtheria bacilli in the nostrils of those convalescent from mild forms of nasal diphtheria. Three of the specimens of the thirty-six tabulated above (medical students in attendance on diphtheria patients) contained these bacilli. An experiment which had for its object to test the bactericidal effect of the nasal mucus of a rabbit upon a variety of bacteria accustomed to grow in a rabbit's blood serum led to interesting results. It was as follows:

A tiny drop of a serum-bouillon culture of a streptococcus, which had been rendered extremely virulent for rabbits by its passage through a large number of them, was dropped into the nostrils of two rabbits. One died on the second and one on the third day of general septicæmia. In these cases the streptococci either penetrated through the nasal mucous membrane or remained alive and passed back into the pharynx, and there produced disease. In neither case would it seem was the mucus sufficiently bactericidal to destroy the bacteria.

If, as our experiments hitherto detailed tend to show, there is more or less constantly to be found within the normal nasal cavities a growth of bacteria, the contention that any marked bactericidal action is inherent in the nasal mucus falls to the ground. Nevertheless, a few experiments were made directly as to this point.

The nasal mucus from one case, after being sterilized at 55° C. for an hour on two successive days, proved to be without apparent bactericidal effect upon diphtheria bacilli, pseudo-diphtheria bacilli, staphylococci, streptococci, and a coccus obtained from the normal mucus.

From two cases the nasal mucus obtained on sterile cotton by allowing it to remain for a time in the nasal chambers and then squeezing it out, proved to have no bactericidal power within twenty-four hours upon the same organisms, but the effect of both the sterilized and the unsterilized mucus on anthrax bacilli was quite marked. Sterile sheep serum was found to have the same power.

While, therefore, our investigations do not bear out the statements either of Thomson and Hewlett or of Würtz and Lermoyez, it is doubtless true that the mucus from the healthy nose is not so full of germs as might at first thought be supposed. This comparative scantiness is probably due—

1. To the action of gravity. Clear serum draining down from regions in the nose to which the inspired air does not have free access washes away the bacteria deposited by the tidal air.

2. To the action of the cilia supplementing that of gravity.

3. To the fact that the nasal mucus, while possessing little or no bactericidal power for most bacteria, is not a good medium for most bacteria to grow in.

4. To the filtering action of the vibrissæ when they exist. (It will be remembered that children have none and women very few.)

5. To the fact that ordinarily the inspired air contains very few pathogenic germs, or, in other words, those germs accustomed to grow in body fluids.

We may conclude, therefore, that for bacteria which have developed in the blood or secretions of other individuals the bactericidal power of the nasal mucus is little or nothing, and can not be depended upon to prevent an infection from virulent bacteria if they are carried into the nose by our instruments.

Bibliography.

1. Hueter. *Allg. Chirurgie,* Leipsic, 1873, p. 257.
2. Herzog. *Wiener med. Presse,* 1881, No. 29 *et seq.*
3. Eugen Fränkel. Virchow's *Archiv,* No. 90.
4. B. Fränkel. *Berlin. klin. Woch.,* 1886, No. 17, p. 267.
5. Strauch. *Monatsch. f. Ohrenheilk.,* 1887, No. 6, p. 151.
6. Loewenberg. *Deutsch. med. Woch.,* Nos. 1 and 2, 1885.
7. Hajek. *Berlin. klin. Woch.,* No. 33, 1888.
8. Reimann. *Inaug. Dissert.,* Würtzburg, 1887.
9. Von Besser. Ref., *Beiträge zur path. Anatomie,* 1889, No. 6, p. 359.
10. Wright. Nasal Bacteria in Health. *New York Medical Journal,* July 27, 1889.
11. Thost. *Deutsch. med. Woch.,* No. 10, 1886.
12. Schubert. *Berlin. klin. Woch.,* No. 39, 1889.
13. Deletti. *Archivii italiani di laringologia,* October, 1891.
14. Weibel. Original paper in *Centralblatt für Bakt.,* 1887, Bd. xi, No. 16, p. 465.
15. Paulsen. Ref., *Centralblatt für Bakt.,* 1890, Bd. xi, p. 344.
16. Strauss. Ref., *Centralblatt für Bakt.,* 1895, Bd. i, p. 96.
17. Würtz and Lermoyez. *Annales des maladies de l'oreille,* 1893, p. 661.
18. Lermoyez. *Annales des maladies de l'oreille,* 1891, p. 85; 1895, vol. i, p, 224.
19. Thomson and Hewlett. *Medico-chirurg. Trans.,* vol. lxxviii, 1895.
20. Fermi and Brettschneider. *Archivio italiano di otologia,* anno iv, 1896, 1mo fasc.
21. Piaget. *Thèse de Paris,* 1896; *Annales des maladies de l'oreille,* February, 1897. Ref., *Journal of Laryngology,* November, 1896.
22. Klemperer. Ref., *Journal of Laryngology,* November, 1896, p. 286.
23. Malato. *Archivio ital. di otologia,* vi, fasc. 4, 1897.

PRACTICAL MEASURES IN OBSTETRICAL EMERGENCIES.*

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WHEN I was asked by your president to open the discussion on the subject of Practical Measures in Obstetrical Emergencies, certainly an interesting and worthy one, little did I think of the difficult task I had undertaken. The field to be covered under this caption is a very large one. To take up each and every condition of emergency likely to occur during the parturient act would carry me so far beyond the limits of an ordinary society article that it would be terrible to contemplate the result upon you from such a prolonged *séance.*

To properly cope with this almost endless topic, to treat of it in an exhaustive manner, would take hours and hours of time. Let it therefore be understood from the very first that such is farthest from my thoughts. The most common complications as well as the most serious ones, those that demand instant and thoughtful action, will be dealt with to the best of my ability. Those that I shall omit are left out for the reason that in order to deal intelligently with some, I must slight others from lack of time. These can, nevertheless, be brought out to better advantage by those who follow me in the discussion. There is no branch of medicine, and I speak advisedly, in which a cool head and steady hand are of greater importance than in the practice of obstetrics. What chance has a woman and her unborn babe if in the presence of a dangerous complication the accoucheur loses his head completely? Far better do nothing under such conditions; for will not Dame Nature come to our aid and meet us more than halfway? Better this than under the influence of intense mental excitement or physical demoralization do what under other and safe conditions would be criminal. Witness, for instance, the criminality of a physician in the presence of a ruptured uterus cutting off a yard of gut in order to hide the signs of omission and commission; or the luckless medical man who deliberately leaves a woman with the head of a fœtus lying undisturbed in the uterus, trusting that either the powers of Nature or some kindly practitioner will help him out of such an awful dilemma!

It is my honest belief that the larger our experience on lines of preservation and conservation grows the fewer will the accidents and emergencies be, as pertains to our own practices. Ordinary care and skill in making out presentation and position is half the battle won. I do not mean the perfunctory examination as undertaken, and I do not exaggerate, by seventy-five per cent. of medical practitioners who rest satisfied so long as they feel a hard round body, which they interpret as the head. Deflections, obliquities, malpositions of the vertex are rarely thought of, less often made out —not until a fruitless forceps application or a slipping forceps, with its terribly destructive consequences, recalls to their minds that there is such a thing as a *malposition of a good presentation.* If there be even the suspicion that a presenting part is not clear in our minds it is necessary, nay, the absolute and sacred duty of the medical man, to introduce the hand into the uterus and explore not only the presenting part but the conformation of the maternal pelvis. Pelvimetry is beyond the scope of this paper, but I wish to state again what has been repeatedly said: *"Know your woman's pelvis as you know her face."* Deal with malposition and malpresentation early; recognize your pelvic contractions in time, and I feel morally certain there will be fewer threatened uterine ruptures, fewer fatally exhausted women, fewer dead children, fewer septic cases and septic deaths, and many more smooth convalescences. Do not operate too early or too late, but in time; that is the secret. Never operate until an indication presents. Just here lies the difficulty. It is far simpler to do an obstetric operation than to place an indication. Far more difficult is it to know *when* to operate than *how* to operate. Indications for operating occur more frequently for maternal than for fœtal causes. Any general condition which threatens the life of the mother warrants instant interference, no matter what the condition of the maternal parts or the position of the child in reference to the pelvis. If the cervix is not dilated, a direct manual dilatation or, in extreme cases, the deep incisions of Dührssen. The method of delivery depends upon whether or not the head is engaged. If it is above the brim, version is to be instituted in nearly every case. When the head is engaged and in a normal position, forceps should be the operation of election, except in those cases where the part presenting is in a vicious position—*i. e.,* mento-posterior cases or occipito-posterior cases. Here version should be done. As said above, version is to be the elective measure in all cases where the head is above the brim, but the exception to this rule in my experience is in those cases where there is a tetanic uterus, a threatened or already present uterine rupture. Under these conditions it is thought better to do the high forceps operation, to our minds the most difficult of all obstetric operations, for the fear of causing or increasing the lesion which is threatening or already present. But in the great majority of these cases the labor has been so prolonged and tedious that the child is either dead or the fœtal exhaustion so grave that the life of the child can not be taken into consideration. Here, then, we must submit to a measure which, while it does not affect the mother, can do the child no possible harm—namely, perforation.

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* Read before the Harlem Medical Association, November 1, 1897.

A good rule in midwifery is one which states: "The delivery of a dead child should always be effected by the perforator and cranioclast, unless its position be so low in the pelvis that its delivery can not possibly materially militate against the condition of the mother." If symptoms of a threatened rupture occur, delivery should be instituted at once as above. Far more grave is the condition where actual rupture occurs. The author has seen a number of these cases, and all have died in spite of every variety of treatment. With the fœtus still *in utero,* high forceps or direct perforation is called for. Laparotomy is to be countenanced only in those cases where the fœtus or placenta has passed into the abdominal cavity. Those of you who have done or seen a laparotomy under these conditions will forever remember the boggy, œdematous, succulent state of the organs involved, and the difficulty in properly treating such accidents. Few of these patients come to an operation, for most of them die from shock and hæmorrhage; but, from a practical standpoint, a total hysterectomy ought to give the best results. Of a number of cases, I have treated them on tentative lines: passing the hand into the uterus, preventing gut from being nipped, or, after carefully washing intestines, replacing them. A drain in the rent, a firm uterine tamponade, ice bag to the abdomen, and large doses of opium, is all we can do in the hope of saving these patients. There is no more terrible or heartrending accident in the lying-in chamber than that known as a post-partum hæmorrhage. This is *the one* condition which to cope with successfully is the highest gift in the hands of an accoucheur. It occurs quickly. Its results are dire, but it does not frequently happen in the hands of a careful man. Its prevention is the absolute retraction and contraction of the uterus. After delivery the uterus should be held and kneaded, and not allowed to relax.

Many men speak of frequent post-partum hæmorrhages. These either denote faulty technique on their part, or else they call every bleeding a true post-partum hæmorrhage. I speak of these hæmorrhages as those where in a few moments from perfect health, in good spirits, the woman lies cold, collapsed, gasping for breath, with sighing, yawning, and all those symptoms which we all recognize too well as soul-stirring and marrow-freezing. There may be no external hæmorrhage, but the large, relaxed, boggy uterus tells the story but too well. Quick, precise action is required. No theoretical measures are to be thought of. Means that have stood the test of time must be used, and used at once, to bring on firm and good uterine contraction. I have thrown aside everything but one of two measures. I countenance but one *hot intra-uterine douche,* and if this procedure does not bring about the desired result, I do not use irrelevant and dangerous measures, such as direct compression, ice, persulphate of iron, lemon, vinegar, etc., *ad infinitum,* but proceed to pack the uterus with gauze, toweling, or anything I have on hand. I never go to a case without five yards of gauze being on hand. This is a surgical means of controlling hæmorrhage. The technique of gauze tamponade is simple: one hand over the uterus, while with the other the gauze is shoveled in, as it were, until no more can be introduced.* So long as this gauze remains, bleeding can not occur, for it acts mechanically in controlling the bleeding and actively stimulates the uterus to contraction. The after-treatment is simple: Postural treatment and stimulation by the needle, with large doses of strychnine given at short intervals; infusion of a saline solution, for the heart needs a fluid, not necessarily blood, to act upon. Intravenous transfusion is difficult of application in those cases, for the veins are so small, so collapsed, that to find them is not only difficult, but valuable time is lost. Hypodermoclysis is all right if the needle and Davidson syringe are at hand, when a pint may be injected under each breast. But we have in the colon an avenue which greedily absorbs about all the fluid we can inject. The tube of a fountain syringe is slowly wormed two feet into the bowel and the salt water allowed to run in, at the same time elevating the buttocks to allow the force of gravity to act in getting in the fluid higher and higher. It is remarkable how much fluid a colon will absorb under these conditions, and how little is expelled. I well remember one case where one pint was injected every hour for twenty-four hours with most brilliant results. The water should be hot, and it would not be amiss to add to the salt solution strong coffee, or liberal doses of cognac or whisky. Ergot is of little value in these cases when given by mouth, for Hemmeter has shown that it takes at least a quarter of an hour to act. As an adjuvant, ergot or ergotole might be given hypodermically, but deep into the outer side of the thigh.

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* The packing can be safely removed at the end of twenty-four hours and, if necessary, renewed.

Hæmorrhage from the cervix, while not so fatal in its immediate action, can in a relatively short time exsanguinate a patient. Its causes and prophylaxis do not enter into discussion in this paper. The diagnosis is simple enough if, in the presence of a well-contracted uterus, hæmorrhage from the vagina and vulva can be excluded. Its treatment is self-evident, but by what means? Powerful traction from below by bullet forceps or pressure from above, both causing an artificial prolapse of the organ, has in my hands, by putting the uterines on the stretch, caused a cessation of the hæmorrhage. Direct pressure for ten minutes, the thumb and index finger of one hand directly grasping the angle of the tear, has answered in others, or, to the same end, clamps inserted well above the angle of laceration. Further surgical measures would be the firm utero-vaginal tamponade. These are the varieties of treatment when direct suture and needle are not on hand. I can only advocate primary trachelorrhaphy in the presence of hæmorrhage, and not, as many have advocated, in all cases of laceration. The universal application of sutures is condemned for the reason that if the accoucheur has been surgically clean deep tears will in the largest number of cases heal spontaneously. If the rent is sewed up and strict cleanliness is not observed, sepsis will arise and union not occur. I well remember a case where the physician sewed so thoroughly that the entire uterine canal was closed and not a drop of lochia could escape. But in the presence of cervical hæmorrhage we recognize the only condition for the primary operation. In itself the operation is simple. Place the woman on the back, artificially prolapsing the uterus by direct pressure, or pulling down the cervix to and through the vulva—in other words, delivering the cervix into the world—passing as many sutures as are required, and tying them tightly; for, since we are operating upon a uterus which will rapidly involute, in which the parts are congested and swollen, bleeding might occur or the wound gape from ligatures that in this wise become loose from not being tied tightly enough.

Following this technique, it is as easy to sew up a cervix as it is to operate upon the perinæum. Hæmorrhage from the vagina is rare, and requires simple suturing. Spouting from the clitoris, while apparently a simple matter to treat, is one which has puzzled the writer in finding the source of the hæmorrhage. Direct pressure, or a suture passed beneath the bleeding vessel, will readily control the condition.

Hæmatoma of the vagina and vulva is a rare condition. The acute pain, the presence of pressure, and rapidly increasing swelling will direct the attention of the attendant to the source of trouble. No matter how insignificant the matter might be at the beginning, it must be remembered that impossible delivery and a dead fœtus has been the result of procrastination in delivery. The patient ought to be delivered at once, direct pressure instituted, and ice applied locally. In the event of our feeling that the submucous hæmorrhage is not under control, direct incision and firm surgical packing would be called for. Vividly do I recollect a tremendous diffuse hæmatoma of the vulva and vagina in which it was impossible to pass even one finger into the vagina, and the patient in the deepest collapse. The gravest condition which can confront the accoucheur is an "accidental hæmorrhage" during labor. The practice of obstetrics is associated with peculiar anxieties at all times, but this becomes many times magnified in the presence of so unforeseen, sudden, and fatal a complication as the one just mentioned. Accidental hæmorrhages do not frequently occur, but yet are not so rare as to rank among scientific curiosities.

The diagnosis of the traumatic cases is readily made. The so-called idiopathic ones are difficult of recognition only because the condition is seldom thought of. Characteristic of such a condition would be previously rigorous pains, feeble and irregular; the change in their character; the pains are typified by their fixity at one point; the increased size and doughy consistence of the uterus. There may or may not be external evidence of hæmorrhage. The patient is in a condition of unrest; she is irritable. The pulse now becomes rapid and feeble; there are symptoms of an intense hæmorrhage going on, and yet the external flow is entirely out of proportion to the condition the patient is in. Shock is most often the fatal element, which can not be accounted for by the loss of blood. The death-rate is enormous for both mother and baby. Consequently, the treatment, you can readily imagine, must be of the heroic order. As the placenta and uterus are one or both at fault, there can be only one measure to our minds to stave off the almost inevitable condition. If there ever be a legitimate field for the performance of the deep cervical incision, we have it here. Ergot, rupture of the membranes, Barnes's bags, etc., have here no place. Either rapid manual dilatation or the bloody dilatation can but seldom save either mother or child.

Beyond this our hands are tied. Active stimulation, rapidly emptying the uterus, perforation for the baby—

for it has already in the largest number of cases been sacrificed—and thorough tamponade of the uterus. We are not to be understood as recommending such rapid operating in all cases, but only in the desperate ones. The milder accidental hæmorrhage cases, as a rule, take care of themselves, and need little if any treatment but rest and general narcotic sedatives. A rare and interesting condition met in the parturient and puerperal woman is uterine inversion; and yet, because of its rarity, it is essential for the practitioner to have the mode of treatment at his fingers' ends, so that reinversion may be commenced; for the longer we wait before active treatment is commenced the greater the spasm of the contraction ring and the more remote the chances for successful treatment. It will not be dogmatic if the statement is made that inversion, as a rule, is caused by faulty technique in the third stage of labor—that is, during the attempts made to express the placenta. The rationale of the Credé method is not only manual compression, but manual expression, instituted during the height of pain, at some time distant from the end of the second stage. Best at that time, whether this be at the end of five minutes or an hour, when the tired uterus has regained its usual vigor of contraction. Faulty position of the hand, as the digging of the fist firmly against the fundus; indentation of that part of the uterus, with or without traction upon the cord, all predispose to inversion. It is far better, if one hand fails, to stand in front of the patient and, using both hands—the thumb in front, the fingers behind—grasp the organ firmly and compress and express steadily and forcibly the entire fundus. Inversion in the second stage of labor is, as a rule, due to short cord. It is always incomplete. In cases of inversion in the second stage we should apply the forceps under narcosis, and, while traction is thus made, artificially prolapse the whole uterus by pressure, not against the fundus but against both uterine horns, so as to relieve the tension between the cord and uterus; then we should employ manual removal of the placenta, reinversion of the fundus direct, and firm utero-vaginal tamponade. Grave is the condition of complete inversion during the third stage of labor. The quicker the inversion is attacked the better is the result obtained. Whether or not to remove the placenta is yet a moot point; still, the writer would advocate such a measure, for the placenta can only be an obstacle to successful work. Chloroform narcosis is essential. Pressure is to be made not against the fundus but directly against either one or both horns. The procedure is very tiresome, but the applied force must be kept up until the spasm of the internal ring is overcome. Then, when once yielding, do not give the advantage so obtained, but rapidly follow by complete fundal reinversion. As a rule, this primary operation is simple but tiresome, and will succeed in most cases; after which, in order to stimulate uterine contraction and prevent recurrence, the uterine tampon should follow. But where success does not follow, brute force must not be used, for we would thus invite traumatism, with the inevitable sepsis that ensues. When such a case confronts us we can not countenance any measure short of attacking the contraction ring by the abdominal route. Hydrostatic bags, gauze vaginal tamponade, are all too uncertain, too risky, to weigh against the ever-increasing danger to the woman. A direct abdominal section, steel dilators, or direct manual dilatation, at the same time that the fundus is teased up from below, is certainly more scientific and rational than the measures mentioned above. Placenta prævia and eclampsia are two conditions which every man would want to shun. Eclampsia *is* a complication which can be as surely prevented as puerperal sepsis, and this by the systematic examination of the urine.

When, in spite of medical treatment carefully and conscientiously administered, our results fail; when, instead of improving, the condition remains stationary, and especially if it grows worse, surgical interference is called for. The presence of the uræmic state is bad, but an eclamptic seizure is far worse. We can not understand the last reports from the French school, who even in the presence of an attack of eclampsia still prefer the medical to the surgical treatment. It can only be that either these authors are not correctly reported, or else the French women are built on different lines from the American. During labor, in the presence of eclampsia, the fœtus must be removed at once, for the prognosis for the child is bad, at least fifty per cent. dying if not delivered. It is further known that when once the uterus is emptied the attacks of eclampsia cease in over ninety per cent. of the cases. If the os is fully dilated, forceps when the head is engaged and version when above the brim should be the operation of election. If the os is not dilated sufficiently for the passage of the fœtus, manual dilatation or the deep incisions of Dührssen should be done at once. So far as the uræmic state is concerned, the surest way of mitigating the condition is to cause a return of diuresis. Hot colon irrigations, elevating the hips and turning the patient on the side, continued for hours at a time; hot packs, large draughts of water; hypercatharsis by croton oil, elaterium, etc., is about all we may hope to accomplish this by. With a full, bounding pulse and congested face, a free bleeding from the uterus, until the pulse is soft and feeble, is a distinct indication. Veratrum viride acts similarly but not so certainly as uterine phlebotomy. Where heart stimulants are indicated, as recognized by the rapid and feeble pulse and the collapsed condition of the patient, large doses of nitroglycerin, a fiftieth to a twenty-fifth of a grain, every half hour to hourly doses, strychnine, caffeine, and camphor must be exhibited. To treat the seizures tentatively, chloroform, morphine, codeine, and chloral are of distinct value as adjuvants, but can not be recognized as curative measures in the true sense of the word.

The secret of success in treating these cases is rapidly emptying the uterus, under deep but short chloroform narcosis, and employing every measure known to cause a return of diuresis. A woman who is the victim of a vicious insertion of the placenta is one who is suffering from a malignant disease. She is on the verge of a catastrophe, which is imminently threatening her, even though the condition may not manifest itself until the critical hæmorrhage occurs. There is no condition which I so dread as a placenta prævia, and yet it is safe to say that no dangerous condition can be so readily overcome as this dread complication. Rare is it that the vicious placental state gives trouble primarily during the labor, but we are most frequently compelled to deal with it some months before the end of utero-gestation. Hæmorrhage is inconsistent with normal pregnancy. Every hæmorrhage in the "gravida" must be looked upon with grave suspicion. The complete and partial implantations are readily recognizable, but there are cases where, while no placenta can be felt, a diagnosis of placental implantation, involving the dilating zone of the uterus, can be made pretty accurately by exclusion. Thus, if an abortive menstrual period can be eliminated, and lesions of the cervix, vagina, vulva, and anus can be proved absent, the condition can hardly be anything but a hæmorrhage from the placenta, which is clinically or anatomically prævia. Far better to err on the wrong side and empty the uterus than shield ourselves by inaction because no placenta can be felt, and thus run the woman into the enormous danger from hæmorrhage which may cost the death of two beings. There can be no question in the minds of those who do the best they can by their patients that when a placenta prævia is present, or when there is even a suspicion of its presence, the emptying of the uterus at once by any measure which is consistent with the integrity of the maternal structures is called for. Whatever operation is performed, let it be one that will empty the uterus rapidly, and while so working saving the woman the loss of blood, and at the same time endeavoring to preserve fœtal life. In my hands the direct manual dilatation will always remain the operation of election. The placenta must be removed at once, and to save the woman the loss of as little blood as possible the direct gauze uterine tamponade is a measure to be recommended.

Now, before closing this rather dogmatic article I should like to call, as rapidly as possible, to your attention a few grave emergencies which pertain to the fœtus. The first is funic prolapse. So dangerous is this condition to the child, so imminently fatal in its effect, that in many cases before you can do much the fœtus will have perished. Should extraction of a child dead under these conditions prove a difficult measure, or materially dangerous to the mother, it would be wise to deliver by perforation and cranioclast, since it is far easier to deliver by such interference than to extract a child with an unopened skull. But where a fœtus is alive it has been a rather dreary experience, speaking from a personal standpoint, after replacing the cord by the usual method, to find that after all careful manipulation a dead child has been extracted. You can not tell when you have thoroughly replaced the cord, and as likely as not a small knuckle is nipped between the fœtal head and the bony pelvis, and in this wise the fœtus has been sacrificed. Accordingly, it has been customary, while waiting for assistance, to place the woman either in the Trendelenburg posture or in the knee-chest position to prevent pressure. A combined version has been the operation of election, and, in the presence of a dilated or dilatable os, an immediate extraction. These measures have given us the best results.

There are a number of cases on record where, after the head had been delivered, it was found impossible to extract the shoulders, and so the fœtus was lost. This is often due to a failure of the shoulders to rotate; that is, the long diameter between the shoulders attempting a passage through the narrowest part of the pelvic outlet—namely, the transverse. Here simple rotation will overcome the difficulty. But yet, where the mechanism is true, the size of the shoulders is so great that the greatest difficulty is encountered in their delivery. Pressure from above, breaking up the impaction by the forcible extraction of one arm even at the expense of a fracture, will in many cases do. If spasm of the sphincter ani or the pelvic floor is evident, a unilateral incision through the vulva, running obliquely downward and outward, but making it deep, will dilate the vulva as quickly as will a similar incision in the cervix. If this does not fill the bill, and the fœtus is still undelivered, the operation of "cleidotomy" should be done at once. By this means we cut directly through either one or both clavicles by the use of a pair of scissors; the chest must of necessity instantly collapse—that is, there is a diminution in the diameter of the shoulders, and delivery is readily accomplished. The last emergency to be dealt with is extension of the after-coming head either after version or extraction. Flexion is as essential in the successful delivery of the after-coming head as it is in the delivery when the vertex presents. In breech delivery, should any obstacle, bony or otherwise, obstruct the passage of the after-coming head, chin and sternum part company, extension of the head ensues, the arms quickly are carried extended above the head, and the greatest difficulty in extraction occurs. The necessity of other than manual (direct) interference in after-coming-head extraction means nothing but faulty technique; in other words, when it becomes necessary under existing conditions to apply forceps, it is almost certain that flexion has not been maintained, and this through the fault of the operator. To properly maintain flexion it is the custom with the writer to exercise less power in pulling on the legs, but to institute from above direct pressure and force upon the after-coming head—that is, follow the head downward as rapidly as extraction is exercised upon the feet. Traction upon the feet and breech must be forever downward and backward as far as possible, and just here lies the common error with many. Traction directly forward or even upward of the legs and breech is but too commonly practised. The secret of successful after-coming-head delivery is traction downward and backward until the shoulders are delivered—more "*vis a tergo*," a materially less "*vis a fronte*"; to guide the head through that pelvic diameter at the inlet, in contracted pelves, which is the widest, and this is most frequently the transverse; when the head comes to the middle of the pelvis, rotation by a finger in the mouth, so as to conform to the largest diameter of the outlet—namely, the antero-posterior. These precautions being taken, the head, well flexed, is found in the pelvic floor, when delivery is readily accomplished by any of the ordinary methods. Should extension occur, what is to be done? Firm pressure from above by the hand or that of an assistant or nurse. The introduction of one or two fingers inserted into the mouth of a child as far as the root of the tongue. This re-enforced by centre pressure against the occiput to assist the other fingers working in the same direction, flexion is forcibly made and thus delivery is readily accomplished. We advise the introduction of the fingers far back into the child's mouth, and not pressure made against the point of jaw, since pressure made at this time may fracture the mental process; further, the traction made at this point simply forces open the jaw, but, on account of lack of resistance, does not act in flexing the head. The advisability of making pressure against the malars is not well thought of, since our degree of purchase is very limited and flexion can not be as thoroughly promoted as by the means recommended above. In the event of these measures failing, forceps might be used, and the child's life saved. In all probability in this time it has already been sacrificed. When the child is dead there is no measure which so little compromises the welfare or life of the mother as the perforator. Nothing is so dangerous to the maternal parts as brutal and forcible attempts to extract a dead child, and on more than one occasion I have seen two or three men *at one time* pulling, as if their life depended on it, to extract a child that was dead; and likely as not after one or both legs had been pulled off. Timely use of the perforator is to be recommended the moment no fœtal life is present, for the mother's condition would be endangered by the extraction of a non-craniotomized baby.

947 Madison Avenue.

The West End Medical Society.—Officers for the year 1898 have been elected as follows: President, Dr. Robert H. M. Dawbarn; vice-president, Dr. C. G. Kerley; treasurer, Dr. H. G. Myers; pathologist, Dr. Walter Bensel; recording secretary, Dr. C. B. Carter; corresponding secretary, Dr. Charles Good.

The Richmond Academy of Medicine and Surgery.—At the meeting of January 25th the subject for discussion was Reflex Cough, introduced by Dr. A. C. Palmer.

NEURAL AND PSYCHIC MANIFESTATIONS SUBSEQUENT TO FRACTURES OR DISLOCATIONS.*

By THOMAS H. MANLEY, M. D.,
PROFESSOR OF SURGERY AT THE NEW YORK CLINICAL SCHOOL OF MEDICINE.

When, from the application of great physical violence to the body, certain pathological conditions result, it is often desirable and necessary to forecast the ulterior effects on the functions of the cerebro-spinal axis in those cases followed by various degrees of repair.

A brief consideration of this theme is here submitted.

Influences and Conditions bearing on the Effects; Repair and Sequelæ.—Perfect repair, or restoration of function, after a complete fracture of a fully developed osseous body or shaft never occurs. The nearest approach to it we find in the infant child or youth, whose bones are not perfectly developed. The child outgrows the effects by recuperative processes, conjoined with continued development.

In the adult, the matured bone possesses great resistance, requiring proportionate force to disorganize or displace it, the shock and laceration of contiguous structures being considerable. As the stage of senility is approached, pronounced vascular changes commence; the compact tissue of the bone shafts, in its central lamellæ, becomes non-vascular, hard, and brittle. The bone marrow has shared in this change, and what was once red is now yellow.

Regional Division and Organic Complications.—The region of the body, or the bones involved, influence the immediate and remote effects of fractures—viz., those of the skull, spine, ribs, sternum, pelvic bones, or the extremities—very much depending on whether the fracture is in near contact with important organs. Fractures of the upper extremity are less trying than those of the lower, because of the comfortable fixation apparatus they may be placed in. The laceration of the nerve trunks plays an important rôle in the degree of discomfort succeeding fracture of bone shafts.

Local and Constitutional Conditions supervening after Fracture, in which varying Degrees of Pain are a Notable Feature.—Some there are who never fully survive the shock of fracture when violent concussive force has been sustained by the whole body, or when the emotions are impressed by the circumstances attending the accident. The pleurisy and emphysema following severe costal fractures, the synovitis when a joint is involved, the complication of the soft parts, the rupture of ligamentous tendons and muscles, all produce pain and wear on the system. Femoral fracture in old people is a very serious affair.

A simple fracture does not exist, and our English-speaking authors have not as yet produced a rational and definite classification of fractures.

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* Abstract of a paper read before the New York State Association of Railway Surgeons, November 6, 1897.

Pain is an integral factor of every fracture, and is a manifestation of Nature that something has gone wrong; especially is this so after a fracture has been fixed; and, when pain asserts itself, it should not be stifled by narcotics, but the dressings removed and the parts inspected.

Pain and weakness in a limb may remain long after the fragments have been reduced or a fracture has been treated—from, first, the original extent of disorganization; second, non-union or mal-union; third, improper treatment.

The above are the exceptions. It is well to remember them, for easily and effectually adjusted fragments are seldom a source of suffering or weakness.

In civil litigation the presence and character of one's suffering are always taken into consideration, and on the professional opinion the court must be guided in many cases.

The Condition of the Patient as a Factor in Neuro-psychic Phenomena after Trauma.—A knowledge of the fact that hysteria, rheumatism, neuralgia, and other systemic conditions often follow serious osseous injuries will remind us that the patient must be treated as well as the injured bone or limb.

The idiosyncrasies of individuals, when we apply mechanical devices for the reduction and fixation of fractures, influence the result of our treatment—some doing well with slack dressings, others with firm, tight splints and bandages, while some prefer to have a limb in a flexed attitude, and others in a straight position, etc.

Neurophysical Conditions in Relation to Definite Diagnosis in Fractures or Dislocations.—After one has sustained a severe injury of any part of the body he is naturally apprehensive until he learns its character.

The assurance that he has only "a sprain or a bruise" will have a most quieting effect; but if we proclaim the presence of a "fracture" of the skull, of the spine, or, in fact, of any other bones, grave apprehension may be excited. But it is imperative to be accurate in diagnosis in all possible medico-legal cases, as it will make a great difference with a jury if evidence of *a fracture* can be demonstrated.

In internal medicine, as in lesions of a constitutional origin, diagnosis is the key to treatment; in many deep, immobile fractures, however, it has no therapeutic relevancy whatever; nevertheless, from its psychic and forensic aspects definite and precise knowledge of them is desirable.

The Deep Exploratory Incision and the Röntgen Ray in Diagnosis.—The deep exploratory incision will expose a fracture anywhere located, but it may involve great havoc of the tissues, may imperil life, or add fresh dangers; besides, this description of surgery is not in the line of advanced art. In suspected fractures of the upper segment of the femur, the spine, or pelvis, this is quite inadmissible.

Here the Röntgen rays come in as one of the most important discoveries of modern science, and a valuable resource in the diagnosis of obscure fractures. But evidence comes from all sides that their revelations are neither positive nor definite in a large number; that they may indicate a cleavage or rent in the bone when none exists, and, *per contra,* point to perfection in bone shafts the seat of tangible fracture.

Finally, in all truth, it must be stated that there is a considerable margin of doubtful cases in which the positive evidence of fracture can not yet be incontestably demonstrated without resort to measures which the well-being of our patient interdicts. The same will apply to doubtful luxations.

Therapeutical Notes.

An Injection for Gonorrhœa in Women.—Lutaud (cited in the *Journal de médecine de Paris* for January 2d) employs the following formula:

℞ Alum, Borax, } each	450 grains;
Quinine sulphate	15 "
Carbolic acid, Essence of thyme, } each	30 drops;
Glycerin	3,000 grains.

M. A tablespoonful, in a pint of warm water, to be used as a vaginal injection two or three times a day.

A Powder for Difficult Dentition.—Dr. S. Santoire, of the borough of Brooklyn, sends us the following formula, and says that he has used it with great success for over twenty years in hospital and private practice:

℞ James's powder, Calomel, } each	1 grain;
Sodium bicarbonate	12 grains;
Dover's powder	2 "
Sugar of milk	12 "

M. Divide into twelve powders. To a child from six months to two years old a powder may be given every four or five hours, in syrup or in milk and water.

The Treatment of Alveolar Pain after the Extraction of Teeth.—The *Lyon médical* for November 28, 1897, contains an abstract from the *Bulletin médical* for November 17, 1897, attributing the following suggestions to certain American dentists, one of whom is Dr. F. H. Morgan:

Remove the blood-clots from the socket of the tooth by means of a little absorbent cotton wound on a match, and then syringe the cavity with very hot water, either plain or containing a little carbolic acid. If this does not answer, insert a tampon of cotton or bibulous paper soaked in camphorated phenol or in one of the following solutions:

1. ℞ Menthol, Chloral hydrate, } each	4 parts;
Camphor	2 "
Alcohol	30 "

M.

2. ℞ Chloroform, Alcohol, Tincture of aconite, } each	100 parts;
Morphine	1 part.

M.

THE
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SURGEON CARTER'S VINDICATION OF THE MARINE-HOSPITAL SERVICE.

Some months ago there was published a letter to the Hon. Frank S. Gardner, written by Dr. Warren E. Anderson, of Pensacola, criticising the quarantine work of the Marine-Hospital Service in connection with the recent outbreak of yellow fever in Mississippi and in other southern States. Writing from Mobile, on January 10th, Surgeon H. R. Carter, of the service, replied to Dr. Anderson's statements in a letter addressed to that gentleman and now printed.

To Dr. Anderson's objection that only young men were admitted into the service, a very small proportion of whom, if any, had had useful experience with epidemic diseases, Dr. Carter replies that it is true that only young men are admitted, men between twenty-one and thirty years old, but he declares that no such men have ever been "sent to preside over the health destiny of New Orleans" or any other place. They are not likely to be so sent, he adds. These men, he explains, grow older in course of time and acquire experience under their experienced elders, and not until they have grown experienced has any one of them ever been placed in charge of epidemic work. Moreover, says Dr. Carter, the service is not limited to its own regular officers, but avails itself of the talent and experience of other physicians in epidemic and other work, as has been exemplified by the employment of Dr. Porter, of Key West; of Dr. Wall, of Tampa; of Dr. Faget, of New Orleans; of Dr. De Saussure, of Charleston; of Dr. Booth, of Shreveport; and of a number of physicians of Brunswick and other places. Consequently, he argues, the statement is not quite justified that the representatives of the service "know nothing of the prevailing diseases" of the South.

Dr. Anderson's second point was that the officers of the service were taken indiscriminately from all sections of the country. This is true, says Dr. Carter, but he does not think it is of special importance. However, he goes on to show that twenty-seven per cent. of the officers of the Marine-Hospital Service—and not less than five per cent., as Dr. Anderson said—were born and reared south of latitude 37°, and fifty-three per cent. are of southern birth and rearing, not counting himself and some others whom "the affiliations of almost a lifetime" would cause to be classed as "far Southerners." Eighteen per cent. of the whole corps, says Dr. Carter, have had very considerable experience with yellow-fever quarantine at southern stations, and thirty-nine per cent. have had more or less experience with yellow fever in the South, and not "less than ten per cent.," as Dr. Anderson stated.

To the statement that not three per cent. of the officers are regarded by sanitarians or the general public as possessing any knowledge of yellow fever whatever, Dr. Carter answers that that is an "opinion of an opinion," without any data being given, so that he does not know how to controvert it, but he feels sure that the health officer of the State of Florida would increase the figure in Dr. Anderson's estimate. He asks Dr. Anderson if he has noticed that in almost every bill for a national health service introduced of late years the promoters have included the Marine-Hospital Service in the proposed health service. This, he says, is "because," as was stated in the presentation of the Girdner bill, in 1894, "we wish to avail ourselves of the services of a corps already organized and experienced in quarantine methods and the sanitary control of exotic diseases; to use an efficient tool prepared to our hand." He explains that he does not profess to give this as the precise language used, but as its substance "and not far from the verbiage." The retention of the officers of the Marine-Hospital Service is provided for also, he remarks, in the bill favored by Dr. Anderson—namely, the one presented to the American Medical Association, but not yet indorsed by that body.

"Your third charge," says Dr. Carter, "is, with qualification, correct. All United States officials are responsible to heads of divisions, bureaus, or departments in Washington. I confess, however, I do not see how it can be avoided in any United States service, or what harm it does. Similarly, State subordinates in the State. A State is not related to the United States as one foreign country to another, but as one of its component parts, and the State representatives are the United States government, and to them are responsible the heads of all bureaus in Washington and every United States officer anywhere else. I can not admit that this is 'Cæsarism.'"

The remainder of Dr. Carter's letter is devoted to demonstrating the efficiency of the service in the Brunswick epidemic of 1893 and in the late epidemic in the South. The demonstration did not need to be made for those who are conversant with the facts; for others it ought to prove wholesome reading.

THE PREVENTION OF RABIES IN ODESSA.

A writer in the *Lyon médical* for January 2d remarks that it is still not very uncommon to encounter medical men who are skeptical as to the results obtained in the antirabietic institutes. Consequently, he says, no occasion should be lost to make them acquainted with fresh proofs of the efficiency of preventive inoculations, and he analyzes a report lately published in the *Archives des sciences biologiques de Saint-Pétersbourg* by Dr. P. Diaptroptoff. It appears that in the course of the year 1895 1,307 persons received the Pasteur antirabietic inoculations in the Odessa bacteriological station. If we deduct nineteen who did not go through the whole course of treatment, eight who had been bitten by animals ascertained to be free from disease, and eleven concerning whom the data are insufficient, we have left 1,288—so the writer figures it, but there seems to be a slight error. Of all these, five died of rabies, and in all five the symptoms showed themselves before the course of inoculations was completed. So far as the information received at the institute goes, not one who had undergone the entire course died, and most of them, about sixty per cent., came from provinces in which deaths are very methodically registered.

The writer says there are several reasons for this brilliant result. In the first place, the victims hastened to the station, so that in eighty-seven per cent. of the cases the inoculations were begun within a week of the time of the bite. The intensive inoculations were largely resorted to, and the purity of the spinal cords employed was tested by bouillon cultures. Whenever it was possible Dr. Diaptroptoff ascertained the degree of virulence of the virus that had entered the system through the bites by means of inoculations of rabbits, and this experimental determination of the extent of the poisoning led him to employ the intensive method even if the cutaneous injuries were inconsiderable.

Of the 1,288 persons inoculated, 284 had been bitten by animals ascertained experimentally to be affected with rabies, 231 by animals recognized as rabietic by veterinary examination, and 633 by animals suspected to have rabies. Reports upon an animal's condition, says the experimenter, must be taken with reserve, and he cites the instance of a lady who brought a veterinarian's certificate that the dog which had bitten her was not mad, and brought also the dog's brain, inoculation with which caused the development of characteristic rabies in a rabbit. Twenty-seven of the persons bitten by animals shown experimentally to be rabietic had been bitten on the head and face. The creatures that had done the biting included one man, 1,173 dogs, forty-three cats, two horses, sixteen wolves, and three hogs.

To show how slight an injury may serve for inoculation, Dr. Diaptroptoff cites the case of a man who denied obstinately that he had been bitten, although he had the disease fully developed at the time and died of it two days later. This man's wife declared that he had been bitten three months before by a strange cat that he was seeking to drive out of the house.

MINOR PARAGRAPHS.

CHLORINE IN THE TREATMENT OF CHILBLAINS.

Dr. C. Binz (*Zeitschrift für practische Aerzte*, 1897, No. 19; *Fortschritte der Medicin*, December 15, 1897) remarks upon the uncertainty of most methods of treating chilblains. He thinks that only chemicals capable of penetrating the epidermis can be expected to have any effect. To these belongs chlorine in the form of chlorinated lime. He has found that one part of this, mixed with nine parts of paraffin ointment, rubbed into the inflamed parts for five minutes every night, will cause the pain and swelling to disappear in the course of a week. After each inunction the foot is covered with a very thick bandage. It is important, he says, that the ointment should have a strong odor of chlorine, and he adds that the chlorinated lime of the shops has generally parted with its free chlorine. Another point of importance, he thinks, is that the drug should be mixed only with paraffin ointment, for he has found that, when mixed with lard and especially with lanolin, it gives up its chlorine too quickly. The ointment is useful, he says, only so long as it gives out a decided smell of chlorine.

MEIOTICS OR MYOTICS?

In the January number of the *Dublin Journal of Medical Science*, in a review of an American book on therapeutics, the writer asks for the authority for the spelling "meiotics" in lieu of the ordinary form, "myotics." "Is not myotic," he asks, "the adjectival form of myosis, and is not this derived from μύω, to shut the eyes (μύωψ, short-sighted), rather than from μεῖον, less?" We think not. Liddell and Scott give μείωσις (from μειόω) as meaning diminution, the opposite of αὔξησις, and cite Hippocrates among other authorities. They give also the adjective μειωτικός as meaning lowering, diminishing. They do not give μύωσις or μυωτικός at all, but they do give μυωπός as the equivalent of μύωψ, short-sighted. Now, we take it that meiotics have nothing to do with short-sightedness or with closing the lids (which latter is the primary meaning of μύωψ); their action is to cause *diminution* (μείωσις) of the size of the pupil.

THE JUBILEE OF VIRCHOW'S *ARCHIV.*

In October, 1897, the first number of volume cl of the *Archiv für pathologische Anatomie und Physiologie und für klinische Medicin*, commonly known as Virchow's *Archiv*, was published. It is the first number of the second half-century of the existence of the journal, and the veteran editor, Professor Virchow, takes the occasion to give a brief account of the part it has borne in the medical literature of the period. An excellent portrait of Virchow forms a frontispiece to the volume. We hope he may long preside over the *Archiv*.

ACQUIRED OCCLUSION OF THE VAGINA.

A Russian physician, Dr. Popoff (*Gazette de Botkine,* 1897, Nos. 11 and 12; *Gynécologie,* December, 1897), reports the case of a woman, forty-five years old, who, having always before been in good health, was seized with pains in the lower part of the abdomen, retention of urine, and fever. Some time afterward there was a purulent discharge from the vagina. A midwife was consulted, and she found in the vagina a soft tumor which she took for a carcinoma. Two days later a mass as large as a man's fist was expelled, and two months after that the patient found that her vagina was shortened. It was ascertained, indeed, to be but little more than an inch deep. There was a mass of cicatricial tissue running transversely attached to the right descending ischio-pubic ramus. Dr. Popoff thinks that the obliteration of the vagina was due to cicatrization following a partial necrosis of tissue accompanying the enucleation of the tumor by suppuration. The tumor itself was probably an interstitial submucous fibroma.

THE CITY BOARD OF HEALTH.

It seems to us that those who are engaged in the laudable endeavor to get the board out of the drug business should take pains to make it plain to those who are opposing their bill before a legislative committee that they are in no wise seeking to "hamper" the board in its legitimate work. Any attempt to prevent the board from producing vaccine, antitoxine, etc., should, in our opinion, not be made; but we do hold that it should not be allowed to sell such products. The argument that it sells them for less money than one has to pay for articles of the kind produced by drug firms is only another way of saying that public money is in competition with private enterprise, which is all that we object to in the matter.

OIL OF WINTERGREEN IN GYNÆCOLOGY.

At a recent meeting of the Paris Obstetrical and Gynæcological Society (*Gazette hebdomadaire de médecine et de chirurgie,* November 18, 1897) M. Jouin reported that he had treated metritis and its various complications, but more particularly gonorrhœal endotrachelitis, by means of applications of oil of wintergreen, and with success. He stated that in some cases the medicament had found its way into the Fallopian tubes and cured old cases of salpingitis.

THE *INTERNATIONAL MEDICAL MAGAZINE.*

We observe by the initial number of the seventh volume of the *Magazine* that it is now edited by Dr. Walter L. Pyle, of Philadelphia. Dr. Pyle has had considerable experience in medical journalism and is well known as a practised and graceful writer. We predict for him a successful career in his new work.

MERCURIAL OINTMENT IN THE TREATMENT OF SYPHILIS.

Welander (*Archiv für Dermatologie und Syphilis,* xl, 2, 3; *Centralblatt für Chirurgie,* December 25, 1897) has followed the practice of putting on the patient's breast a bag, about twelve by sixteen inches in size, containing from a drachm and a half to two drachms of mercurial ointment, to be worn while the patient is in bed, from ten to fourteen hours at a time. He finds that the mercury is absorbed in much greater amount than when inunction is employed, and that the syphilitic manifestations are very favorably affected.

GALLSTONES AS A SOURCE OF STOMACH TROUBLE.

Dr. Reichmann (*Berliner klinische Wochenschrift,* 1897, No. 33; *Gazette hebdomadaire de médecine et de chirurgie,* November 14, 1897) calls attention to the occurrence of gastric troubles in connection with biliary lithiasis apart from the attacks of colic. Often, he says, for several hours after the colic has subsided, there is weakness of the muscular coat of the stomach, manifested by belching and by distention of the organ with gas. In other cases cramps occur, and they are due to reflex irritation of the solar plexus.

A CALOMEL IDIOSYNCRASY.

At a recent meeting of the Paris Therapeutical Society (*Presse médicale,* December 21, 1897) MM. Pouchet and Mignon reported the case of a man, forty-four years old, who had been attacked with grave mercurial stomatitis after taking nine grains of calomel in the course of two days.

SEA WATER FOR INTRAVENOUS INJECTION.

At a recent meeting of the Paris Society of Biology (*Indépendance médicale,* December 7, 1897) M. Hallion reported that he had confirmed M. Quinton's observations to the effect that diluted sea water administered by intravenous injection was much better borne than any other saline solution.

WHAT IS EXTRACT OF STRYCHNINE?

A recent number of one of the leading Paris medical journals contains two prescriptions in each of which "*extrait de strychnine*" figures as an ingredient. We should like to know what it is.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 1, 1898:

DISEASES.	Week ending Jan. 25.		Week ending Feb. 1.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	4	0	11	3
Scarlet fever	206	14	175	12
Cerebro-spinal meningitis	0	0	0	0
Measles	389	23	322	16
Diphtheria	178	22	152	25
Croup	8	2	2	0
Tuberculosis	244	89	201	108

The Southern Section of the American Laryngological, Rhinological, and Otological Society will meet in Atlanta on Monday, March 28th, at 10 A. M., in the parlors of the Aragon Hotel. Dr. A. W. Calhoun is the chairman and Dr. Dunbar Roy is the secretary. Members of the profession are invited to be present.

Dr. Wackerhagen's and Dr. Halsted's Apparatuses for Enterorrhaphy.—At Dr. Wackerhagen's suggestion we publish the following:

"No. 28 Seventh Avenue, Brooklyn, New York,
"*January 31, 1898.*

"Dr. William S. Halsted,
"*1201 Eutaw Avenue, Baltimore, Md.*

"Dear Doctor: On Friday last my attention was called to an article by you, published in the *Philadelphia Medical Journal*, January 8, 1898, entitled Inflated Rubber Cylinders for Circular Suture of the Intestines. This was a day before my publication, January 29, 1898, in the *New York Medical Journal*, entitled An Improved Accessory Apparatus for Enterorrhaphy.

"Although I had conceived this idea in the latter part of December or early part of January, through unavoidable delays my plan was not published until this late date, and I regret very much that I did not know of your experiments and those of Dr. Downs in a very similar direction, and considered myself the only originator of this method of procedure.

"In order that you may become acquainted with these facts, I make haste to forward this letter.

"Yours very truly, George Wackerhagen.

"P. S.—I have forwarded a copy of this letter to Dr. Foster, *New York Medical Journal.* G. W."

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending January 29, 1898:

Small-pox—United States.

Bessemer, Ala.	Jan. 9–26	29 cases.	
Birmingham, Ala	Jan. 9–26	78 "	
Talladega, Ala.	Jan. 9–26	41 "	
Other points in Jefferson Co.	Jan. 9–26	25 "	
Atlanta, Ga	Jan. 20–26	12 "	1 death.

Small-pox—Foreign.

Hong Kong, China	Nov. 29–Dec. 4	1 case,	1 death.
Cardenas, Cuba	Jan. 9–15.		1 "
Cienfuegos, Cuba	Jan. 2–16.		8 deaths.
Havana, Cuba	Jan. 14–20		2 "
Sagua la Grande, Cuba	Jan. 9–15	35 cases,	5 "
Sunderland, England	Dec. 16–Jan. 8	1 case.	
Miyagi Ken, Japan	Dec. 17–27	2 cases,	3 "
Saitama Ken, Japan	Dec. 17–27	1 case.	
Yehime Ken, Japan	Dec. 17–27	2 cases,	1 death.
The Hokkaido, Japan	Dec. 17–27	70 "	26 deaths.

Yellow Fever.

Para, Brazil	Jan. 2–8	11 deaths.
Cienfuegos, Cuba	Jan. 10–16	1 death.
Havana, Cuba	Jan. 14–20	2 deaths.
Matanzas, Cuba	Jan. 6–19	3 "
Regla, Cuba	Jan. 14–20	3 "
Santiago de Cuba	Jan. 9–15	1 death.

Cholera.

Bombay, India	Dec. 22–28	4 deaths.
Calcutta, India	Dec. 22–28	8 "

Plague.

Bombay, India	Dec. 22–28	200 deaths.

Expert Testimony in Criminal Trials.—There has been introduced into the assembly of the State of New York a bill which, according to the *Sun's* Albany correspondent, provides that upon the trial of all indictments for felonies in a court of criminal jurisdiction, whenever it is made to appear to the court that the trial of issues will probably require the introduction of medical expert testimony, the court may, upon application of either party, appoint such number of experts as the court shall deem proper, not fewer than three or more than five. Such experts shall in all cases be persons skilled in medical and surgical science, or in both, and shall have been duly admitted to the practice of medicine in the State of New York, provided that in special and extraordinary cases the court may in its discretion appoint expert persons resident in other States and duly qualified and admitted to practise medicine in the State where they reside. Each expert witness so appointed shall receive such compensation as the court shall prescribe, which shall not be less than $10 nor more than $100 per diem while in actual attendance upon such trial, and mileage the same as is allowed to other witnesses, which shall be paid by the county.

The Medical Board of Bellevue Hospital and the City Board of Health.—The following resolutions were passed by the medical board of Bellevue Hospital at a regular meeting held on February 1st:

Whereas, In the opinion of this board the health department of New York has rendered great public service by the measures which it has taken to check the spread of infectious diseases, including tuberculosis, and by the zeal with which it has promoted scientific research; and

Whereas, There has been introduced into the State senate a bill known as senate bill No. 5, which, if it becomes a law, will greatly restrict the field of work of the health department and hamper it in its efforts to secure improved sanitation for the citizens of New York; therefore, be it

Resolved, That this board do hereby protest against senate bill No. 5, believing that its passage would work great injury to the interest of this community.

Resolved, That these resolutions be spread upon the minutes of this board, and that copies be transmitted to the senate committee on cities, to the New York city health department, and to the medical journals of this city.

[Signed.] Alexander Lambert, M. D.,
Secretary of the Medical Board of Bellevue Hospital.

The Dispensary Bill.—The bill to restrict the abuse of medical charity, commonly known as the dispensary bill, now pending in the legislature of the State of New York, seems in a fair way to be passed. If it is passed, it is expected that the governor will sign it, for it seems to be free from the features that are understood to have determined him to withhold his signature from the bill that was passed last year.

The City Hospital Medical Society, of St. Louis.—The programme for the meeting of February 3d included the following titles: Dr. L. Bremer—Final Report on the Microscopical Appearances of the Kidney Presented by Dr. Bryson on January 6th; Dr. Otto Sutter—A Specimen of Multiple Aneurysm of the Aorta (autopsy by Dr. Hugo Summa, who, by special request, was to open the discussion, in which Dr. C. Fisch and Dr. Kodis also were to take part); and Dr. A. H. Meisenbach—Some Practical Points in regard to Herniotomy. The next meeting will be held on February 17th.

The Late Dr. Joseph O'Dwyer.—The following resolutions were adopted at a meeting of the Eastern Section of the American Laryngological, Rhinological, and Otological Society, held in Albany, January 24, 1898:

Whereas, Death has removed from our midst our distinguished colleague, Dr. Joseph O'Dwyer, one of the founders of the American Laryngological, Rhinological, and Otological Society, a man of scrupulous honor and integrity, with a nature as gentle and character as unsullied as that of the little children to the tender care of whom he devoted his life's effort; be it, therefore,

Resolved, That in our loss we are not alone deprived of the man whose genius has made for his name an abiding place in medical history, but of a comrade whose modesty and sincerity will ever be remembered by those who knew and loved him.

Resolved, That in the loss of our late vice-president our society mourns one of its most distinguished fellows, and medical science loses one of its brightest ornaments.

Resolved, That the heartfelt sympathy of the Eastern Section be extended to the family of our lamented brother.

Resolved, That these resolutions be entered in the archives of the American Laryngological, Rhinological, and Otological Society, and that a copy be sent to the family of Dr. O'Dwyer.

[Signed.]
Arthur G. Root,
Robert C. Myles,
H. Holbrook Curtis,
} *Committee.*

The Massachusetts Hospital for Epileptics.—Dr. Edgar J. Spratling, for three years past of the Matteawan State Hospital in this State, has been appointed first assistant in the Massachusetts Hospital for Epileptics at Palmer. This institution is nearly ready for occupancy, and is expected to accommodate all the epileptics of Massachusetts, sane and insane, public and private.

St. Louis Medical Society.—At the last regular meeting, on Saturday, January 29th, Dr. Hugo Summa was to exhibit a specimen of struma suprarenalis and give a history of the case, Dr. N. B. Carson was to report a case of congenital absence of the uterus, and Dr. L. H. Laidley was to read a paper entitled Animal Sutures: Preparation and Use, which was to be discussed by Dr. N. B Carson, Dr. H. Tuholske, Dr. F. J. Lutz, Dr. A. V. L. Brokaw, Dr. C. H. Dalton, Dr. H. H. Mudd, Dr. A. H. Meisenbach, Dr. Spencer Graves, and Dr. H. S. Crossen.

Bellevue Hospital.—We learn that Dr. J. R. Hayden has been appointed an assistant surgeon.

The Buffalo Academy of Medicine.—At the last meeting of the Section in Surgery, on Tuesday evening, the 1st inst., the following papers were to be read: The Technics of Hysterectomy, both Vaginal and Abdominal, by Dr. Dudley P. Allen, of Cleveland, Ohio; and A Case of Penetrating Gunshot Wound of the Head, by Dr. Eugene A. Smith.

The Indiana State Medical Society will hold its next meeting on May 5th and 6th in Lafayette, instead of in Evansville, as previously announced.

The Late Dr. Michael B. Talbot, of Niagara Falls, was among the earliest subscribers to this journal.

Changes of Address.—Dr. Robert Kunitzer, to No. 188 Lenox Avenue, New York; Dr. Nathaniel Read Norton, to No. 952 Lexington Avenue, New York.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending January 27, 1898:*

Irwin, Fairfax, Surgeon. To proceed to Marcus Hook, Pa., and inspect State Quarantine Station. January 22, 1898.

Smith, A. C., Passed Assistant Surgeon. To proceed to Marcus Hook, Pa., and inspect State Quarantine Station. January 22, 1898.

Board convened to meet at San Francisco, California, for the physical examination of officer of the Revenue-Cutter Service. Surgeon J. M. Gassaway, chairman; Passed Assistant Surgeon M. J. Rosenau; and Assistant Surgeon W. M. Jordan, recorder.

Society Meetings for the Coming Week:

Monday, *February 7th:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society, New York (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Alban's, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; South Pittsburgh, Pennsylvania, Medical Society; Chicago Medical Society.

Tuesday, *February 8th:* New York Academy of Medicine (Section in Genito-urinary Surgery); New York Obstetrical Society (private); New York Medical Union (private); Buffalo Academy of Medicine (Section in Medicine); Kings County, N. Y., Medical Association; Medical Society of the County of Rensselaer, N. Y.; Newark (private) and Trenton, N. J., Medical Associations; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

Wednesday, *February 9th:* New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital, New York; Medical Societies of the Counties of Albany and Allegany (quarterly), N. Y.; Pittsfield, Massachusetts, Medical Association (private); Franklin, Massachusetts, District Medical Society (quarterly—Greenfield); Philadelphia County Medical Society.

Thursday, *February 10th:* Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society, New York; New York Laryngological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Massachusetts, Medical Club (private); Pathological Society of Philadelphia.

Friday, *February 11th:* Yorkville Medical Association, New York (private); Brooklyn Dermatological and Genito-urinary Society, New York (private); German Medical Society of Brooklyn, New York; Medical Society of the Town of Saugerties, N. Y.

Saturday, *February 12th:* Obstetrical Society of Boston (private).

Births, Marriages, and Deaths.

Born.

Magruder.—In New Orleans, on Saturday, January 29th, to Dr. and Mrs. Marcus J. Magruder, a daughter.

Story.—In New Orleans, on Saturday, January 29th, to Dr. and Mrs. Benjamin S. Story, a son.

Married.

Eggers—Ourat.—In La Crosse, Wisconsin, on Thursday, January 27th, Dr. Gustav C. Eggers, of St. Louis, and Miss Florence Amanda Ourat.

Magruder — Lewis. — In Woodville, Mississippi, on Wednesday, January 26th, Mr. Henderson Magruder, son of Dr. Levin W. Magruder, and Miss Nannie Lewis.

Pollock — Sanchez. — In Pensacola, Florida, on Wednesday, January 26th, Dr. W. Andrew J. Pollock and Miss Jennie Theresa Sanchez.

Died.

Corley.—In Bloomington, Illinois, on Thursday, January 27th, Dr. Charles J. Corley.

French.—In Noroton, Connecticut, on Thursday, January 27th, Dr. William Freeman French, in the forty-second year of his age.

McKelway.—In Philadelphia, on Friday, January 28th, Mrs. Mary A. McKelway, widow of Dr. Alexander J. McKelway, and mother of Dr. George I. McKelway, of Philadelphia, aged eighty-six years.

Parvin.—In Philadelphia, on Saturday, January 29th, Dr. Theophilus Parvin, aged sixty-nine years.

Talbot.—In Niagara Falls, N. Y., on Wednesday, January 26th, Dr. Michael B. Talbot, in the fifty-first year of his age.

Obituaries.

THEOPHILUS PARVIN, M. D., OF PHILADELPHIA.

Professor Parvin, whose death took place last Saturday, was well known to the profession, both in our own country and in others, as a highly accomplished man and one of considerable humor. He was also an excellent teacher of obstetrics. Although he is said to have been descended from Cæsar Rodney, one of the signers of the Declaration of Independence, he was born in Buenos Aires, where his father was a missionary, on January 9, 1829. He was graduated at the University of Indiana in 1847, and took his medical degree at the University of Pennsylvania in 1852. At various times he was a professor in the Medical College of Ohio, in the medical department of the University of Louisville, and in the Indiana Medical College. In 1883 he became professor of Obstetrics in the Jefferson Medical College, of Philadelphia. He was the author of an excellent treatise entitled *The Science and Art of Obstetrics*, and he edited a translation of Winckel's work on *Diseases of Women*.

Letters to the Editor.

LEVIS'S OPERATION FOR HYDROCELE.

New York, *January 15, 1898.*

To the Editor of the New York Medical Journal:

Sir: In the issue of your *Journal* for January 8th I notice an editorial on Eversion of the Tunica Vaginalis Testis, etc., for the Cure of Hydrocele. Then follows the technique of the operation, which requires a general narcosis, with a long incision, a dissection, etc. Further on a discussion of the priority in this procedure and finally its merits are summed up. "It is ideal in its simplicity; it is very easy to perform; it reduces the traumatism to the minimum; it requires only a few instruments, and those are of the commonest sort; if asepsis has been secured, there is no suppuration; the cure is radical and the patient regains his ability to work sooner than after other operations for hydrocele."

The conditions which would demand such an operation as you have described for the cure of hydrocele are exceedingly rare, and the assertion that the patient is able to go to work sooner after this operation than others is an error.

There is an operation which will cure at least ninety per cent. of all cases of hydrocele of the tunica vaginalis testis without ether or chloroform narcosis, without pain, without danger, and without putting the patient to bed for an hour. It is the operation of the late Professor Levis, of Philadelphia.

I have performed this operation a great many times for many years, and have described it in my work on *Surgery* as the most acceptable procedure for the relief of this disease. I have successfully demonstrated it time and time again before the classes of the New York Polyclinic Medical School and Hospital.

On the anterior aspect of the tumor an area an inch in diameter should be thoroughly cleansed with soap and water and a little mercuric-chloride solution. Then with a delicate hypodermic needle inject three to five minims of a four-per-cent. solution of cocaine. Through this anæsthetized area, after grasping the scrotum to make it as tense as possible, thrust a trocar and cannula. This cannula should be threaded in order to fit the screw tip of an ordinary large-size hypodermic syringe. As soon as the point of the cannula and trocar pass freely into the cavity of the sac, the trocar is withdrawn and the fluid allowed to escape. Gentle pressure applied to the sac, taking pains not to allow the cannula to be extruded, will empty all but a few drops of fluid. The next step in the operation is the injection of liquid carbolic acid, ninety-five per cent. pure. The quantity to be thrown in varies with the size of the tumor, twenty minims for a sac containing two to six ounces, gradually increasing to as much as sixty minims for a sac containing a pint. Care should be taken not to carry any air through the syringe into the cavity. The fluid having been evacuated and the proper quantity of carbolic acid placed in the syringe, the thread is now screwed into the corresponding threads of the cannula, a little clean vaseline is spread upon the scrotum around the needle puncture to prevent any possible leakage of acid on the integument, and the contents of the syringe forced in. When the cannula is withdrawn, gentle massage of the scrotum is practised until the injected carbolic acid has been brought into contact with every part of the tunica vaginalis testis. Strange to say, this operation is almost entirely free from pain, and in many instances I have performed it as above described, the patient not knowing when the instrument was introduced or when the carbolic acid was injected. No dressing is required and, while it is best for the patient to remain quiet for at least twenty-four hours after the operation, I have in a number of instances operated upon laboring men who would come into the clinic from their work and return to it afterward with the loss of only an hour. If properly done, this operation should cure about seventy-five per cent. of all cases of hydrocele at a first injection. When it fails it should be carefully repeated, increasing or diminishing the quantity of acid thrown in as may be necessary to insure a perfect result. It is important that the strictest asepsis be carried out, since the introduction of any septic organism would produce a painful process of suppuration not without danger to the patient. Twenty-four or forty-eight hours after this operation the scrotum appears as large as ever, is heavy, and seems solid or doughy to the feel. After a week or ten days it begins to decrease in size, and since the epithelial lining which furnished the serum has been destroyed by the injection, it does not again refill with fluid, but gradually contracts and adhesions form, thus effecting a cure. The walls of the scrotum, however, are usually much thickened by a chronic hydrocele, and never regain their former thinness.

For infants simple clean aspiration will often effect a cure. Should this fail, about three fourths of the fluid should be withdrawn and from one to three minims of the acid injected.

I can not understand why surgeons will continue to use ether or chloroform narcosis and perform an operation which necessitates the patient remaining in bed from one to three or four weeks when this simple and efficient procedure will suffice.

John A. Wyeth, M. D.

THE ILLINOIS STATE BOARD OF HEALTH'S REGISTER OF ILLINOIS PHYSICIANS.

Springfield, *January 25, 1898.*

To the Editor of the New York Medical Journal:

Sir: The nineteenth and twentieth annual reports of this board, to be published very shortly, will contain an official register of all licensed physicians practising in Illinois. As the reports are sent to every State in the Union and are largely called for by professional and business men interested, I desire that the register be as correct as possible; hence would ask that you kindly accord me space in your *Journal* to request that every physician who wishes to have his name and address correctly reported send the information to me on a postal card at once, mentioning number and date of certificate.

In over seventy per cent. of cases the addresses on file in this office are those originally given when the certificates were issued, and, as no additional information has been furnished this office, either by the county clerks or by the physicians concerned, many physicians are reported in towns from which they moved several years ago. J. A. Egan, M. D., *Secretary.*

Proceedings of Societies.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of November 3, 1897.

The President, Dr. Robert J. Carlisle, in the Chair.

(Continued from volume lxvi, page 845.)

Case of Pemphigus Neonatorum associated with a General Infection by the Staphylococcus Pyogenes.—Dr. L. Emmett Holt reported such a case. (See page 175.)

Dr. Alexander Lambert asked if there had been on the heart valves any evidence of endocarditis.

Dr. Holt replied in the negative, and stated that there had been no lesion of the heart.

Dr. George Thomas Jackson said that pemphigus neonatorum was very rare in this country. This use of the name, moreover, was wrong; it was not, in his opinion, pemphigus at all. The first cases of this kind that he had observed had been many years ago at the Nursery and Child's Hospital. Three children had been affected, and all had had beautiful pemphigus blebs, but they had really been suffering from impetigo contagiosa. In foreign literature there was much said about contagious pemphigus. In true pemphigus pus cocci were not found, unless the blebs had become purulent. Another case of supposed pemphigus he had seen some years ago in Bellevue Hospital. This had also appeared to be one of impetigo contagiosa, and he had accordingly expressed the opinion that it would subside quickly under the use of salicylic acid ointment. This prediction had been verified. In view of these facts, he would protest against the use of the term "pemphigus." True pemphigus was a chronic disease, running a course with relapses—a disease of the nerves rather than a pus infection.

Dr. Edward B. Bronson said that he had seen the case reported by Dr. Holt, and it had not seemed to be an example of real pemphigus neonatorum. The child had certainly not been syphilitic, and the disease had run a very different course from that of typical, essential pemphigus. It was well known that under a great many conditions what might be regarded as a pemphigoid process might occur in the skin. Anything which caused marked vital depression seemed to predispose to the formation of the blebs—*i. e.*, a separation of the cuticle and an effusion of serum underneath. When this effect occurred without any definite assignable cause as an essential or idiopathic form of disease it was called pemphigus. Undoubtedly there was some general (probably internal) cause for the lowered vitality in the skin, but inasmuch as the cause could not be identified we called it an "essential" skin disease. But just the same process might be the effect of injury to the skin, as in the blisters from traumatism, from excess of heat or cold, or from acrid irritants. It might likewise result from injurious influences proceeding from within. That form observed in infants suffering from hereditary syphilis, know as pemphigus neonatorum syphiliticus, did not usually occur without some other lesion of the skin, such as a syphilitic erythema or a papular eruption. The pemphigus was simply an exaggeration of the usual effect, and was due to the fact that the skin reacted much more powerfully in children than in adults, blistering being produced where ordinarily there would be only an erythema or a papulous eruption perhaps. Sometimes in local infections one would find a similar process taking place. For example, in impetigo contagiosa there was ordinarily only a very superficial pustule having a thin wall. But in some cases in which this infection of the skin had lasted a considerable time it seemed to cause such a lowering of the vitality as to produce a condition very closely corresponding to what was found in true pemphigus. Again, there was a condition described as pemphigus hystericus, in which a single bleb might be formed as a result of a peculiar nervous influence. In some cases when blistering had been produced by hot applications in patients suffering from collapse, apoplexy, shock, or some other state of great nervous depression, the effect could not be accounted for by the degree of heat that had been applied. In one instance he had seen blisters produced in a case of hemiplegia on the paralyzed side only, notwithstanding that the hot-water bottles had been applied to both limbs alike. The blistering was a pemphigoid effect, due to the lowered vital tone. The production of lesions corresponding to those of true pemphigus was often, therefore, really a symptom which might be common to quite a number of pathological conditions.

Dr. Holt said it was true that a great number of diverse conditions had been grouped under this term "pemphigus," but his object was simply to report a case under the name by which it was usually described. His case was clearly a septic one.

Abscess of the Liver of Unusual Origin.—Dr. Alexander Lambert reported this case. (See page 177.)

(To be concluded.)

Book Notices.

Handbook of Materia Medica, Pharmacy, and Therapeutics, including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Practical Pharmacy, and Minute Directions for Prescription Writing. By Samuel O. L. Potter, A.M., M. D., M. R. C. P. Lond., Professor of the Principles and Practice of Medicine and Clinical Medicine in the College of Physicians and Surgeons of San Francisco, etc. Sixth Edition, fully revised and greatly enlarged. Philadelphia: P. Blakiston, Son, & Co., 1897. Pp. xv–17 to 900. [Price, $4.50.]

The demand for six editions of a work within ten years is something of which an author may well be proud. Such a demand, it is true, is not always indicative of true worth, but in this case it clearly is, and the esteem in which Dr. Potter's book is held by the medical profession is the reward for a work well conceived and exceedingly well executed. The present edition is in no essential a departure from previous ones—it is a matter of congratulation, indeed, that it is so—rather, however, an amplification. Such things as recent therapeutic research has substantially demonstrated to be worthy are added, and of these serum treatment and the synthetic compounds naturally receive considerable attention, though less conspicuous matters are far from being neglected. Among the many valuable features of the work we may cite the excellent sections upon incompatibility and pharmacy, the well-considered matter upon therapeutics, the very useful appendices, one of which, dealing with the formulæ of patented medicines, is a thing which may indeed be of more service to us than we might wish had been necessary. Above all things, however, the admirable system and completeness of the volume are conspicuous, and these are qualities of which no pharmacological work is a better exponent.

Suite de monographies cliniques sur les questions nouvelles en médecine, en chirurgie, en biologie. No. 4. L'Hérédité normale et pathologique. Par Ch. Debierre, Professeur d'anatomie à l'Université de Lille. Pp. 40. No. 5. L'Alcoolisme. Par A. Jaquet, Privat Docent à l'Université de Bâle. Pp. 40. Paris: Masson et Cie., 1897. [Chaque monographie séparément 1 fr. 25.] [L'Œuvre médico-chirurgicale, Dr. Critzman, Directeur.]

L'Œuvre médico-chirurgicale takes for the subject of its fourth number Heredity, Normal and Pathological. This collection, published from time to time, consists of a series of monographs on topics of the day.

The subject of this pamphlet of forty pages is discussed in three subdivisions. The first describes normal heredity, defining it in part as "the transmission to offspring of characteristics, attributes, and peculiarities of ancestors," and, speaking of its methods of reproduction and its physiology, treats it as being manifest in two forms, the corporeal and the psychical, and occurring in three sets of phenomena, individual, family, and racial.

The second part treats of pathological heredity in its various phases and types, distinguishing minutely between heredity of fecundation (infection *ab ovo*) and "l'hérédo-contagion" (infection *in utero*), and, describing five subdivisions of the pathological variety, the author discusses successively the heredity of malformations, nervous conditions, special diatheses, neoplasms, infections, and intoxications.

The third part is devoted to the theories of heredity. Reviewing the various bases on each of which from time to time ingenious theorists have built the superstructure of a more or less complete hypothesis, the author refers to those of prominent authorities from Hippocrates to Darwin and Weismann. He finds, however, in the results of his own studies a satisfactory explanation of the phenomena of heredity in an hypothesis akin to that of the continuity of the germ-plasm of Weismann, but simpler, inasmuch as he contends that in the very elements which provide for continuity—in the sexual cells—is localized all the hereditary force necessary for molding the organism of offspring; consequently there is no need for the hypothesis of the gemmules of Darwin, of the plastidules of Haeckel, or of the germ-plasm of Weismann.

From the biological standpoint this monograph is interesting as an incentive to investigation and discussion, but to the general medical reader, one may venture to assert, it will prove but another example of the assertion of an abstruse proposition, void of utility. Could the conclusions have been followed by tangible deductions, we should have felt a greater sense of obligation to an author in a field of such magnitude and importance.

The question of alcoholism being as important from the medical standpoint as from the social point of view, it is evident that the combined opinion not only of the physician and sociologist, but of the chemist as well, is pertinent in a treatise of this character.

By virtue of his former studies, and also in respect to his chemical research in the laboratory of Bunge, Dr. Jaquet is ably qualified to deal with this important topic.

This monograph is divided into two parts. The first part treats of the psychical and physical effects of the absorption of alcohol and of the heredity of alcoholism, after reviewing its toxicology and describing it as a clinical entity.

The second part has to do with the possibilities in the employment of measures to combat the immoderate use of alcohol in its many phases. The author considers the various national and municipal regulations regarding the manufacture, sale, and consumption of wine and spirits, giving statistical references and consequent deductions and paying due tribute to the temperance associations in their crusade against alcoholic excesses.

This is an interesting little monograph, but contains little by way of suggestion that would be applicable in the solution of the problem here.

A Practical Treatise on Diseases of the Skin. By John V. Shoemaker, M. D., LL. D., Professor of Skin and Venereal Diseases in the Medico-chirurgical College and Hospital of Philadelphia, etc. Third Edition, revised and enlarged, with Chromogravure Plates and other Illustrations. New York: D. Appleton and Company, 1897. Pp. xiii–894. [Price, $5.]

The work before us is far too well known to need introduction to our readers and its latest edition demands little of comment save to note that the features which have contributed to make the earlier editions prominent are here retained. Dermatological science, however, has latterly made many advances and these the new edition records with completeness. To describe this third edition, therefore, as a rejuvenation of its immediate predecessor is sufficient in view of the eminence to which the work has already attained. A feature of the book which is especially noteworthy is the extensive and well-selected formulary with which the volume is concluded.

The Care and Feeding of Children. A Catechism for the Use of Mothers and Children's Nurses. By L. Emmett Holt, M. D., Professor of Diseases of Children in the New York Polyclinic, etc. Second Edition, revised and enlarged. New York: D. Appleton and Company, 1897. Pp. 104.

Too much can not be said in commendation of this little volume; its object is of an importance so vital and its character is of a quality so direct and simple that it can not fail to achieve a fine result. It is probable that the larger number of our readers are acquainted with the work in its earlier edition, but for the benefit of those who by chance are unfamiliar with it we may say that it covers the hygiene of the nursery in the form of question and answer, the questions being so pointed and so well selected and the answers so lucid that nobody of reasonable comprehension can fail to obtain great benefit from it. In many particulars the second edition is an improvement and an amplification of the first, but in no field so much as in that of feeding. Naturally this is so, for the food of children continues to absorb the attention of pædiatrists more and more, with the result of infinite good, though it would seem that the end is not yet. It is the everyday experience of physicians to see the sad results of nursery ignorance and imbecility, but it may be hoped and properly expected that it will not always be so. To the accomplishment of so desirable a change a work like this can not but be a potent contributor; indeed, the little volume is of a value that may not be over-estimated.

BOOKS, ETC., RECEIVED.

A Text-book on Surgery. General, Operative, and Mechanical. By John A. Wyeth, M. D., Professor of Surgery in and President of the Faculty of the New York Polyclinic Medical School and Hospital, etc. Third Edition, revised and enlarged. New York: D. Appleton and Company, 1898. Pp. x–997.

A System of Practical Medicine. By American Authors. Edited by Alfred Lee Loomis, M. D., LL. D., Late Professor of Pathology and Practical Medicine in the New York University, and William Gilman Thompson, M. D., Professor of Medicine in the New York University, etc. Volume III. Diseases of the Alimentary Canal—Diseases of the Peritonæum—Diseases of the Liver and Gall Bladder—Diseases of the Spleen—Diseases of the Pancreas—Diseases of the Thyreoid Gland—Chronic Metal Poisoning; Alcoholism; Morphinism, etc. Illustrated. New York and Philadelphia: Lea Brothers & Co., 1898. Pp. 5 to 926.

Street-cleaning and the Disposal of a City's Waste; Methods and Results, and the Effect upon Public Health, Public Morals, and Municipal Prosperity. By George E. Waring, Jr. New York: Doubleday & McClure, 1898. Pp. 230. [Price, $1.25.]

New York Charities Directory. A Classified and Descriptive Directory to the Philanthropic, Educational, and Religious Resources of the City of New York, including the Boroughs of Manhattan, Bronx, Brooklyn, Queens, and Richmond. New York: Charity Organization Society, 1898. Pp. xlviii–665.

Twenty-fifth Annual Report of the State Charities Aid Association to the State Board of Charities of the State of New York. November 1, 1897.

A Case of Cerebral Abscess situated at the Posterior Part of the External Capsule. By Charles K. Mills, M. D., and William G. Spiller, M. D., of Philadelphia. [Reprinted from the *Journal of Nervous and Mental Disease.*]

A Preliminary Report, Clinical and Pathological, of a Case of Progressive Dementia. By Charles K. Mills, M. D., and Mary A. Schively, M. D., of Philadelphia. [Reprinted from the *Proceedings of the American Medico-psychological Association.*]

Two Cases of Parotiditis following Cœliotomy. By Wilmer Krusen, M. D., of Philadelphia. [Reprinted from the *American Gynæcological and Obstetrical Journal.*]

The Treatment of Uterine Prolapse, with Illustrative Cases. By Wilmer Krusen, M. D. [Reprinted from the *American Gynæcological and Obstetrical Journal.*]

Examination of the Urine as a Means of Diagnosis. By Theodore W. Schaefer, M. D., of Kansas City. [Reprinted from the *Kansas City Medical Index.*]

Refrigeration as a Means of Preservation of Bodies for Use in the Dissecting Room. By Edmund W. Holmes, M. D., of Philadelphia. [Reprinted from the *International Medical Magazine.*]

A New Tracheal Tube. By Walter F. Chappell, M. D. [Reprinted from the *Medical Record.*]

Electrocution, and what Causes Electrical Death. By Homer C. Bennett, M. D., of Lima, Ohio. [Reprinted from the *American X-Ray Journal.*]

United States Army Directory. January, 1898.

Miscellany.

The British Medical Journal announces that at the meeting of the council of the British Medical Association on January 19th, Dr. Dawson Williams, assistant editor, who has been connected with the editorial department of the journal for seventeen years, and has on many occasions discharged the duties of acting editor, was unanimously appointed editor of the *British Medical Journal.* At the same time Mr. C. Louis Taylor, who has been subeditor for the last eleven years, was appointed assistant editor.

The New York Academy of Medicine.—At the last regular meeting, on Thursday evening, the 3d inst., Dr. Robert Coleman Kemp was to read a paper entitled Intestinal Hydrotherapy—Methods and Uses, with Experiments on Intestinal Absorption, Renal Secretion, etc., which was to be discussed by Dr. W. H. Thomson, Dr. R. W. Taylor, Dr. E. H. Grandin, Dr. R. M. Dawbarn, Dr. R. Guitéras, Dr. S. Baruch, and others.

At the next meeting of the Section in Genito-urinary Diseases, on Tuesday evening, the 8th inst., Dr. G. K. Swinburne will read a paper on Prostatitis and Seminal Vesiculitis, which will be discussed by Dr. L. Bolton Bangs, Dr. George E. Brewer, Dr. F. Tilden Brown, Dr. Eugene Fuller, and others. Cases will be presented and new instruments and specimens will be exhibited.

At the next meeting of the Section in Pædiatrics, on Thursday evening, the 10th inst., Dr. L. Duncan Bulkley will read a paper on Hereditary Syphilis, which will be discussed by Dr. S. Sherwell, Dr. F. R. Sturgis, Dr. E. H. Grandin, Dr. W. L. Stowell, and others. Patients will be presented and specimens will be exhibited.

The Treatment of Obesity.—The *Boston Medical and Surgical Journal* for January 27th contains an interesting editorial article giving the essentials of Professor Albert Robin's treatment of obesity. The writer closes with the following remarks, which seem to us completely justified:

"We do not see that much is added hereby to previous literature and previous experience on this subject. In the treatment of this condition it is eminently true that what is one man's medicine is another man's poison. We ring the changes on albuminoids, carbohydrates, fats, fluids, exercise, and as a result get Banting, Ebstein, Oertel, Oertel-Schweninger, Yeo, and Robin. The end of the circle brings us round again toward the starting-point. The very differences in the *régimes* show that some patients reach better results under one and others under another. The skill and service of the practitioner lie in the selection or modification of the method for the individual case, and in the enforcement of its application, and the latter is by no means the easier part of his task."

The Artificial Determination of Sex.—Under this heading in the *American Medico-Surgical Bulletin* for January 25th the writer of an editorial article, referring to an interview with Professor Schenck, of the University of Vienna, regarding what is reported as his discovery of the cause of sex, remarks that when medical discoveries are unfortunate enough to come under the eye of newspaper reporters and to be published with startling headlines nothing but harm results. A chance, says the writer, is given to the advertiser to evade the code of medical ethics and get an abundance of free notices. Quacks and pretenders are enabled to pose as discoverers and the more easily to delude the public. The average man can not judge between good and bad scientific work. The reporters, as part of the public, are not always prepared to tell the difference between the sound and the spurious. When the very best work of the best men is given them they rarely report it properly, and their failure to give the true statement, together with their misleading headlines, makes the whole matter aggravatingly misleading. It is seldom safe to trust to anything pretending to be scientific, if the least technical, when it appears in the form of a report in a daily paper. Where the matter is such as any intelligent man might understand, of course it is different. There a critical survey of what is said is likely to give some idea of the subject.

Until Professor Schenck's sealed paper on the subject to the Vienna Imperial Academy of Science has been published, continues the writer, there is really very little known on which a safe judgment can be based concerning his allegations. The substance of all he told the reporter is that he knows how to direct the development of the embryo so as to give it what he alleges to be a proper number of red blood-cells to make it a male. He feeds the mother on some suitable form of diet; but what that diet is, how he gives it, or what precautions are pursued has not yet been told. He states that he can tell in advance what will be the sex of a child, but he does not give the slightest information of how the knowledge was obtained. According to the reporter, says the writer, Professor Schenck stated that he could tell whether a given egg would produce a hen or a rooster, but why he mentioned this is hard to understand, as the feeding of a sitting hen could surely have no such effect upon the coming bird as the feeding of a mammalian mother. The incongruity of this association, the writer thinks, only emphasizes the fact that it is very unsafe to hold that inferences made from what the professor is said to have stated are in any sense his belief.

Professor Virchow, the writer goes on to say, has raised a question that Professor Schenck will not be able to meet satisfactorily for a long time if the reporter has at all fairly represented his words. When a mother has twins of unlike sex, both have been subjected to conditions of nourishment nearly alike. Why, then, are they not both males? If the nutrition of the mother determines the sex of the child, then twins should always be of the same sex. That nutrition has something to do with determining sex, he says, is a well-established fact, and was known long before Dr. Schenck's alleged discovery. There are many facts, the writer thinks, that indicate that an unfavorable diet allows a larger number of male germs to develop than female ones. This, however, is opposed to the reported new theory of Dr. Schenck, which denies the existence of any predetermination of sex, and alleges the ability to produce whichever sex may be desired.

The reporter quotes Dr. Schenck as follows: "All former theories and hypotheses have proved false. According to my discovery, the man has no influence whatever on the sex of the child; it all depends on the woman." There is nothing particularly abstruse or technical, the writer thinks, about this statement, and he supposes that the reporter would not deliberately misrepresent the professor. How, then, he asks, does Dr. Schenck account for the fact that after a war a larger proportion of males are born than females? Why is it that in Utah under polygamy there was an excess of males? Why is it that every condition that tends to make the energy of the man less than that of the woman gives an increase in males? If, he continues, we view the problem as one of survival of the strongest under adverse circumstances, it is easy to see the meaning of such facts. If we change our standpoint and take it to mean only the quality of nutrition taken by the mother, it becomes inexplicable. Under all conditions of the case only the averages are altered, and that but slightly.

Even Professor Schenck, the writer concludes, does not seem to allege that he is able to make mothers bear daughters exclusively, or to raise largely the production of daughters. The whole tendency of generation is to produce an excess of females under normal conditions. In spite of this normal tendency, anything that weakens the average men of a nation increases the number of males that are born. To maintain equilibrium, Nature seems to sow more females and when there is no great struggle for nutrition reaps a majority of the same kind. Once, however, let there come a strain on male vigor and the normal trend is broken and a majority of males results.

Koch's New Tuberculin.—Dr. J. Dutton Steele (*Proceedings of the Pathological Society of Philadelphia*, January 15, 1898) has made a study of the literature of Koch's "tuberculin T R," and comes to the following conclusions:

1. The new preparation, if uncontaminated, does not seem to be more harmful than the old tuberculin if very carefully given. The doses suggested by Koch are probably too severe. Much is left to be desired in the preparation of the material. In its present form it is usually contaminated. The greatest element of danger is the possibility of the presence of living tubercle bacilli. It may also contain streptococci, diplococci, staphylococci, and various saprophytic bacteria. Certain outputs of the substance are clearly stronger than others and more likely to cause serious reaction.

2. The injections are accompanied by much discomfort to the individual. The point of entrance of the needle usually becomes the seat of considerable inflammatory reaction and occasionally of abscess formation. Much of this may be accounted for by the contamination of the preparation or faulty asepsis in its administration; but, even in the absence of the former

and with extreme care in the latter, as in the series reported by Bussenius, some infiltration may occur. Very marked systemic reactions occur in some part of the course of injections, but there is a reasonable suspicion that this may be caused by the apparent variation in strength of the preparation. It is possible that, if this uncertainty is overcome, immunity against the products of the microbe may be reached without undue reaction.

3. The immediate effects of the preparation upon existing lesions of the lung, larynx, bladder, and middle ear are too indefinite to admit of any certain opinion being formed concerning them. In lupus, in various suppurating tracts, and in one noticeable case of tuberculosis of the uterus and its appendages the remedy seemed to be of value; but whether of greater worth than the old tuberculin can only be determined by longer observations.

4. Koch's experiments upon guinea-pigs apparently established the fact that in them an immunity against both the bacteria and their products could be obtained, and, inasmuch as several patients after completing the course of injections stipulated by Koch received large doses of the old tuberculin without reaction, it would seem as if an immunity against the products of the bacilli could be produced in man. Whether such individuals possess also an immunity against the bacteria themselves, and therefore are protected against reinfection, must be settled by observations extending over a longer period of time. The observation of Baudach in this connection is pertinent: "The question of the production of immunity is unsettled. If there is none produced, then the only point of difference between tuberculin R and the old tuberculin is the greater toxicity of the former." The class of cases in which the use of the remedy is justifiable is naturally very limited.

The Distemper of Dogs as a Cause of Puerperal Fever.—The following case is related by Dr. Octavius Beven in the *Lancet* for January 22d, and it suggests, he thinks, that the virus of distemper may be directly contagious to human beings:

On March 7, 1897, the author was summoned by a kennelman to attend his wife during her confinement. His cottage adjoined the kennels. He informed Dr. Beven that he had a number of dogs suffering from distemper. One or two of them were very ill, requiring his constant attention night and day, so that he had not been able to take off his clothes for some days. He described the discharge from their nostrils as simply tremendous. Having to feed them on raw eggs, brandy, etc., he was necessarily brought into very intimate contact with them. Arriving at his cottage, the author proceeded upstairs to find that the wife had been delivered of a male child about a quarter of an hour before his arrival; the next pain expelled the placenta; there was very little bleeding and the perinæum was intact, this being her eleventh child. On his visiting her the following day she said she had passed a good night and felt quite comfortable. On March 9th (the third day) she was still very comfortable, the temperature and pulse were normal, and the lochia were perfectly sweet. She was not seen again till the 11th (the fifth day), when her condition was found to be far from satisfactory. She was then very restless; her temperature, taken by the mouth, was 104.2° F., her pulse was 132, and her tongue was dry. The nurse said that she had apparently been perfectly well up to the preceding evening (the 10th), when she had a shivering fit and then passed a very restless night. The abdomen was perfectly flaccid and there was no tenderness on manipulating the uterus; there was no enlargement of the spleen, and the lochia were of good color and perfectly sweet. On vaginal examination the os uteri was found to be normal. There was slight constipation, and the milk was flowing freely. Thorough syringing with Condy's fluid and water was performed, a saline purge administered, and a mixture containing five grains of sulphate of quinine and fifteen grains of bromide of potassium to the dose ordered every four hours. The syringing was directed to be repeated three times a day. On inquiry of the nurse it was ascertained that the husband came from the kennels, contrary to instructions, on the afternoon of the 9th to see his wife, sat with her during the evening, and slept on the bed by her side during the night. The patient was now seen every day, her temperature keeping about 104° for the first three days and then fluctuating in twenty-four hours between 100° and 102°, sometimes higher in the evening and sometimes in the morning. Her pulse dropped to 112, at about which rate it remained throughout. She was kept on the quinine mixture for twelve days, which had to be stopped on account of the difficulty of administration. Her tongue got very dry and glazed; the bowels acted regularly and the motions were good. Milk, beef-tea, eggs, brandy, etc., were taken well. She continued in much the same condition for sixteen days, being delirious at night; her delirium then took on a low muttering form; difficulty was experienced in getting her to take nourishment, and she gradually sank and died on the 26th, the twentieth day after her confinement.

Dr. Beven states that the patient had always been a very delicate and anæmic woman, and since her last confinement she had been under treatment for two months for anæmia. She had in her previous confinements been attended by a midwife and had always had a prolonged convalescence. It will be noted, he says, that the pyrexia was the only reason for calling the condition puerperal fever, not one of the other symptoms being present. It was in fact a fever occurring during the puerperal state. On the afternoon of March 9th the husband was with his wife and on the evening of the 10th the patient had her first rigor. Throughout the whole course of the illness the abdomen remained flaccid, manipulation of the uterus caused no discomfort, the lochia were normal, and the bowels were regular. The case appeared therefore to be one of pyrexia only. The drainage of the cottage and the kennels was declared by the medical officer of health to be perfect. There was no history of the nurse having been near a woman suffering from puerperal fever. No cases of typhoid fever had occurred for some time within a radius of six miles. The kennels are situated away from any houses. Dr. Beven remarks that he would not like to assert that this was a case of puerperal fever caused by the organisms of distemper, but he thinks that the clinical history rather supports that view.

Prague as a University Town.—A special correspondent of the *Boston Medical and Surgical Journal*, writing from Prague, gives a short account of the damage done to the German University in the recent riots, and adds the following interesting comments:

"It is not the first time there has been serious trouble between the Cjechs (Bohemian Slavs) and the Germans in Prague, but it is the first time matters have gone so far as this. Just before the end of the year a meeting of the German students and professors was called down at Eger, near the Bavarian boundary, to discuss the question of the removal of the German University of Prague—the oldest German university, by the way, in Europe—to some town situated among a distinctly German population. Reichenberg and Aussig held out inducements to come to them. It was pointed out that just five hundred years ago the German students left Prague and founded the University of Leipsic because they were denied equal rights with their Bohemian colleagues.

"It is not so easy to move a university in these days as in the fifteenth century, however. Above all, money is needed; and that, under present political conditions in Austria, comes rather slowly and sparsely for educational purposes. Another difficulty is, that to abandon Prague now would look too much like ignobly withdrawing before the hated Slav enemy and giving up the fight for German rights in the city. The sentimental patriotic idea had almost more weight than any other, and so it was resolved that the German University of Prague should remain where it is.

"The recent excesses are to be deeply deplored; but such things inevitably occur where a people is deeply stirred by questions of national and racial interest. Several years ago Marion Crawford said of Prague: 'It is the focus in which are concentrated the hottest if not the brightest rays from the fire of regeneration kindled within the last half-century by the Slavonic race. There is an ardent furnace of life hidden beneath the crust of ashes; there is a wonderful language behind the national silence.' For some years now the wonderful language has come out of the national silence. In fifteen years the Cjeckish University of Prague has grown to be one of the great universities of Europe. Its medical department, founded scarcely thirteen years ago, has over eight hundred students, and a faculty among whom such names as Horba, Cjewski, Hlawa, and Janischik are representative of the calibre of the men. Unfortunately, the national fire smouldering beneath the ashes of accumulated years occasionally (as in this case) bursts forth destructively. To an American, however, the Slavish movement can scarcely fail to appeal sympathetically. A nation is seeking an outlet for its energies, is striving to find its development, and that in the only way that it can properly come—through its own language and literature. It makes, perhaps, exaggerated claims for what it has already accomplished and for the future that is in store for it; but the medical world saw with surprise during the Moscow congress the marvelous progress that the Russian Slavs had made in scientific medicine, and the prospects there are for a still more brilliant future. To visitors to the congress I think the promise that there is a great future in store for the Slavs is clear.

"To her medical men almost more than to any other class in the community, the Cjeckish cause owes the best elements that have come to the fore with Cjeckish development. They have been, and the Bohemian University of Prague has been, turning out nearly one thousand of them a year for ten years—the great propagators of patriotic sentiments among the people, the guardians of the fires of national feeling. The present state of affairs is, then, of special interest to the profession all over the world.

"There is, besides, an interesting medical question, though it is, perhaps, more distinctly an ethnological one, bound up in the progress of the present Slav movement. It is the question of the development of a people at the expense of another, and the other issue of the exhaustion of the terrain of a nation's evolution after she has reached a certain phase of her development. Everywhere here in Central Europe where the Teutons come in contact with Slavs or Huns they are losing in prestige. German, which was so common on the Russian confines twenty-five years ago, is scarcely heard there now. In Hungary, German has practically disappeared before the Oriental tongue of the young and vigorous nation, whose capital is the most enterprising town in Europe, and whose people delight in nothing so much as comparison with Americans. Here in Bohemia, before the Prussian-Austrian war of 1866, German was spoken everywhere; now Bohemian or Cjeckish has taken its place except near the Prussian and Bavarian boundaries. There is a wellspring of vigor somehow in these undeveloped people, whose acme of evolution is only in the future somewhere. The interesting question of the effects on each other of two different stages of national evolution in contact is the spectacle the world will see during the next twenty-five years. For Bohemia will, it is said, during this jubilee year of Franz Joseph, become once more a kingdom by his coronation here."

Apenta Water in the Treatment of Obesity.—The *Berliner klinische Wochenschrift* for March 22, 1897, speaking of some experiments made under Professor Gerhardt's direction in the Charité Hospital as to the value of Apenta water in the treatment of obesity, says that such experiments could not be carried out until quite recently, on account of the inconstant composition of the bitter waters coming into the market. In this respect, the Apenta water is favorably circumstanced, and it was chosen for these observations because of its constancy of composition. The conclusions arrived at as to the value of Apenta in the treatment of obesity, and as to its influence on tissue-change, were that it succeeded in producing a reduction of fat in the body without detriment to the existing albumin, and that the general health of the patient suffered in no wise, and the cure ran its course in a satisfactory manner.

Influenza in Children.—M. L. Fürst, in the *Scalpel*, 1897, No. 16 (*Revue mensuelle des maladies de l'enfance*, January, 1898), remarks that influenza in children runs a peculiar course. It begins ordinarily with depression; the child becomes low-spirited, the appetite fails, and the nasal mucous membranes are affected. An insignificant dry cough is observed, and occasionally there are nausea and vomiting. This condition, which persists from eight to ten days, constitutes the period of incubation of the disease, to which succeed the more recognizable symptoms of the affection. An atypical fever is manifested, with frequent chills; the cough is followed by slight hoarseness and dyspnœa; deglutition is sometimes painful; the nasal catarrh increases, and frequently also intense cephalalgia supervenes; constipation is the rule, and convulsions are often seen in very young children.

In such cases, taken in the beginning, before the appearance of complications, recovery generally occurs more rapidly than in the adult, and, if proper treatment is employed, the children are cured in four or five days. Convalescence is of short duration, and the long period of depression and weakness so characteristic of influenza in adults is not observed.

However, even in children, very grave complications may arise; for instance, the frequent transformation of the neglected initial bronchial catarrh into bronchopneumonia, and even croupous pneumonia. Gastro-intestinal troubles are rare, and the nervous forms of the disease are still rarer; as for infectious nephritis, the author has observed only four cases, and in those there was complete recovery; in five other cases otitis media with perforation of the tympanum occurred, and in one case suppuration of the mastoid apophysis with a phlegmonous condition of the neighboring tissues was produced.

The ætiology of influenza seems, at the present time, to be well established, and the often fatal progress of the pneumonic complications indicates its profoundly infectious character. The cardiac weakness, the pulmonary œdema, and, at other times, a consecutive tuberculosis are certainly proofs of it. The author does not doubt that Pfeiffer's bacillus is the cause of this, and he advocates, as the first hygienic measure, the prevention of the contagion.

The diagnosis of influenza is not easy to make during the first few days, during what the author calls the period of incubation. From the time a child presents analogous symptoms, with catarrh of the respiratory tracts, even without fever, Fürst does not hesitate to isolate the patient and to keep him in bed on a milk diet.

Regarding the treatment of pharyngitis, the author condemns the employment of douches and forcible measures; aside from their enervating influence on the patient, he says, these measures expose him to the entrance of bacilli into the Eustachian tube. Fürst uses preferably a one- or two-per-cent. alcoholic solution of rectified oil of turpentine, which he applies by gently spraying under a weak pressure. He also often employs a mixture of menthol, essence of eucalyptus, and cocaine.

In case of bronchopneumonia, enveloping the thorax in moist bandages should not be neglected. Concerning the internal medication of influenza, Fürst places great reliance on salipyrine, which he considers almost a specific for the affection, having the power to cut it short. He employs it as follows: In patients less than five years of age, four grains in each dose, given three times a day; in those from five to ten years, seven grains three times a day; and in those from ten to fourteen years, fifteen grains three times a day. [This is what we suppose the author means. Obviously, there is a typographical error in the *Revue's* abstract. It reads as follows: *"Il l'emploie aux doses suivantes: jusque 5 ans, 0 gr. 25 par dose, qu'on répète 3 fois par jour; de 5 à 10 ans, 0 gr. 25 par dose répétée de même, et de 10 à 14 ans, 1 gr. par dose, toujours 3 fois par jour."*] The drug is given in some infusion which is mildly sudorific. After the second day, generally, only two doses are administered daily, and at the end of the third or fourth day its employment ceases.

After the disease has terminated it is of the greatest importance to strengthen the child, in order to avoid a relapse. Bathing of the body with a slightly alcoholic solution should be employed night and morning; gargling with a boric-acid solution is also recommended. The author states that the child should not be allowed to sleep in a cold room, because of the profuse perspiration which often follows influenza and exposes the patient to taking cold if he becomes uncovered.

The Treatment of Epilepsy with Hot-air Baths.—According to the *British Medical Journal* for January 15th, recent experimental observations have proved that the fits in cases of idiopathic epilepsy are preceded and accompanied by greatly increased toxicity of the blood, the urine, and the gastric juice; and such therapeutic measures as the free use of purgatives, diuretics, and intestinal antiseptics, washing out of the stomach, etc., have been advocated with a view to the prevention of the formation or accumulation of toxines in the body in such cases. Cabitto (*Rivista sperimentale di freniatria,* 1897; *Journal of Medical Science,* January, 1898) has recently made the further observation that the sweat of epileptics has a correspondingly increased toxicity about the time of the fits. He obtained the sweat for his experiments by placing the patients in a hot-air bath, and the results he observed suggested to him the use of this as a therapeutic agent in epilepsy, with a view to elimination of the toxines by way of the skin. He has given the treatment an extensive trial, and states that he is convinced that it is an excellent means of preventing and interrupting epileptic attacks. It should be employed whenever the prodromal symptoms manifest themselves. The beneficial effects were not merely transitory, and therefore he believes that the baths exert upon other organs, in addition to the cutaneous glands, an influence which causes them to eliminate the poison more rapidly. He recommends that the various other measures that have been found of service for the prevention of self-intoxication should be employed also.

Airol Powder in the Treatment of Corneal Ulcer with Hypopyon.—Mr. George Wherry, in the *British Medical Journal* for January 15th, remarks that the dark-green, impalpable, odorless powder of airol will be found to be a very useful application in these serious ulcers of the cornea. The cases are common in agricultural districts, he says, often as the result of slight injury, such as is received in "cutting the quick," that is, trimming the hedge, or when the eye is "stubbed," that is, stabbed with stubble. Such lesions of the cornea seem very liable to infection; sometimes, doubtless, they are fouled from the first, as when the scratch is received where the butcher bird has been at work and covered the thorns of the hedge with putridity, but often the corneal wound is ill-treated before it can heal, and the tainted wound is bathed in microbic exudation; the irritating products of the microbes then rapidly affect the vascular tissues in the eyes, and cause the formation of pus in the anterior chamber. The pus can be watched through the clear and imperforate cornea. The ulcer may be a comparatively small one, but the patient will usually need admission to the wards, and sometimes incisions or the cautery. Mr. Wherry states that some of the most threatening cases have been successfully treated with airol powder in the following manner:

The eyelids are held open and the airol powder is flicked on to the eye with a dredger; the powder turns gradually to an orange color, and in from three to six hours the conjunctival sacs are washed out gently with boric-acid water, which brings out superfluous cakes of yellow powder. This procedure is employed every few hours, the eye being treated by the open method—no bandage or pad is used—but the patient is kept in bed.

The ulcer heals, and the pus is absorbed in a greater proportion of cases, so far as he can judge, than by other methods. The eye is singularly tolerant of the airol; in no case has the author seen signs of irritation from its use, and when incision and the cautery have been used the after-treatment with airol has seemed to be satisfactory.

At present the author says he has not tried it in purulent ophthalmia. In herpes and ulcers of the glans penis, carbuncles, boils, and sloughing sores it has been useful in acting like iodoform, but without the objectionable odor.

The Treatment of Asthma with Antidiphtheritic Serum.—According to Revilliod, in the *Revue médicale de la Suisse romande* for November 20th (*Therapeutic Gazette*, January, 1898), the increased secretion seen after an injection of serum in all the mucous membranes, the similarity of the acne produced by the iodides, and the urticarial and multiform erythemata which are observed in asthmatic persons and in subjects treated with the serum show that the mode of elimination of these drugs and that of the poison which Nature is attempting to eliminate in asthma are the same. The author bases his theory upon the principle that the channels through which drugs are eliminated are those where they exert their therapeutic action.

Revilliod, therefore, was led to conclude that the aid which the iodides give to an asthmatic patient is assistance in the elimination of the particular noxious substance which is expelled through the respiratory tract. For this reason he uses the serum, and not because of its antitoxic property.

The author reports a series of cases in which he injected antidiphtheritic serum in ten-cubic-centimetre doses during an attack; the action was almost immediate, and the crises did not return for nearly a month, when the injection was again repeated. In the first case the patient had had asthma for six years. An amelioration followed the first injection and increased after each injection, so that after ten injections made during five months the patient was completely cured. In the second case an asthma of seven months' duration was permanently cured in ten days by three injections. In the third case, of eight years' duration, six injections in two months resulted in a cure. In four other cases, although ameliorations have taken place, permanent cures have not been effected as yet.

The author does not maintain that definite conclusions can be drawn from such a limited number of cases, but the successes which he has obtained lead him to believe that this method of treatment is worthy of the consideration and further study of the profession.

Experimental Myelitis due to Microbian Toxines.—The *Gazette hebdomadaire de médecine et de chirurgie* for January 13th publishes a report of a recent meeting of the Société de biologie at which M. Enriquez and M. Hallion reported a case of pyocyanic poisoning in a rabbit, followed by spinal lesions and muscular atrophy. The authors stated that this experiment was not new; that they had established it in 1894 by determining, with diphtheria toxine, the most characterized myelitis in dogs and chronic poliomyelitis in a monkey, with paresis and muscular atrophy of the limbs. The radical alterations correspond to the central lesions.

In a case which had come under the observation of M. Charrin and M. Claude the spinal lesions had been very varied, and necessarily this had impeded the distinct dissociation of the different processes; but the authors, on the contrary, had obtained a condition of purity in different subjects of a myelitis on the one hand and, on the other, a poliomyelitis. This, they thought, not only was analogous, but might be said to be identical with the same lesion observed in man.

Gastro-intestinal Disturbance due to the Ingestion of the Gammarus Pulex.—At a recent meeting of the Académie de médecine, a report of which is published in the *Journal des praticiens* for January 15th, M. Laboulbène related the following case: The patient, an ordinarily healthy man, had suffered for two weeks with pain in the stomach, and had vomited all his meals. On the 6th of November M. P. Dubois, of Melun, who was attending the patient, found in the vomited matter three very lively animals. After the expulsion of these parasites the patient continued to feel the same uneasiness, and finally, two days afterward, under the influence of an emetic, he vomited the pieces of two dead crustaceans. Since that time the troubles has disappeared.

M. Laboulbène, who had examined one of these animals, recognized it as an amphipodous crustacean, a species of fresh-water shrimp, the *Gammarus pulex*. He thought the animal had been swallowed with turbid well-water or with the unpurified water of the Seine, and that it had lived in the man's stomach for nearly three weeks, causing gastro-intestinal disorders.

The Treatment of Diseases of the Heart by the Swedish System of Gymnastics.—According to Barié, in the *Semaine médicale*, November 3, 1897 (*Presse médicale*, January 12th), the purpose of this treatment is to facilitate the work of the heart by increasing its contractile force and diminishing the peripheral resistance. To accomplish this the general principle is to provoke contraction of the voluntary muscles by active movements comparatively light and slowly increased, and by some secondary passive mechanical operations or passive movements which may be divided into three groups: 1. Kneading the muscles of the legs and the arms, also of the abdomen. 2. Movements of circumduction of the hands, the arms, the feet, the legs, the head, and the body. 3. Movements that favor respiration, such as raising and expanding the thorax and elevating the arms. To these groups M. Barié adds certain secondary movements, such as panting movements of the thorax and vibration of the back, which are often accomplished by special apparatus.

The practice of passive movements is nearly always completed by various external measures applied more especially near the præcordial region. This is the local treatment and comprises especially tapping with the flat of the hand, touching the skin lightly with the hands, chopping movements, and vibration of the thorax. The effects obtained by this treatment are as follows: 1. Acceleration of the peripheral circulation. 2. A greater facility given to the depletion of the heart by diminution of the resistance at the extremities and by enlarging the arteries in the muscles subjected to these movements. 3. Acceleration of the pulmonary circulation provoked by deeper respiration.

This treatment requires a rather long time, a progressive course of three months. The exercises should be practised every day and repeated at least once a day, and should last an hour at the least; then, after a varying interval of rest, the treatment is again applied.

The indications for this treatment in diseases of the heart have been clearly stated by Zander and Wide as follows: 1. Dilatation of the heart. In this case the treatment counteracts, up to a certain point, the effects of the venous stasis which results from dilatation. 2. Hypertrophy of the heart (passive movements). 3. Polysarcia of the heart. It is especially in the treatment of fatty heart that gymnastic exercises have a large share. In the beginning passive movements may be resorted to, but very soon long-continued active movements may be employed. 4. Cardiac sclerosis. 5. Nervous affections of the heart and nervous palpitations.

These moderate gymnastic exercises do not interfere with internal treatment in cardiac affections.

The Treatment of Snake Bites.—The *Presse médicale* for January 8th calls attention to the following method of treatment advocated by M. Ferraton: 1. A ligature should be applied above and as near as possible to the wound. Sucking the wound should be practised if the integrity of the buccal mucous membrane of the person who does the sucking is assured. 2. The wound should be washed with a one-in-sixty fresh solution of calcium hypochlorite. In the wound and around it from eight to ten injections of a cubic centimetre each of the same solution should be practised. 3. The ligature should be removed. 4. If antivenomous serum can be easily procured, an injection of ten cubic centimetres should be administered as soon as possible, with the usual antiseptic precautions. Ordinarily this quantity suffices, but if the serpent belongs to a very dangerous species, or if medical intervention has been delayed, it is best to inject two or three doses simultaneously; in urgent cases intravenous injections should be practised in the bend of the arm. In adults the injection is still very efficacious an hour and a half after the subject has been bitten. 5. If threatening general symptoms are produced, a proper treatment should be instituted; for instance, the administration of caffeine or of ether, the injection of three twentieths of a grain of strychnine, general friction, inhalation of oxygen, and artificial respiration; and keeping the patient warm. 6. Antiseptic dressings should be applied to the wound.

If it is not possible to obtain these drugs, the calcium hypochlorite may be replaced by Javelle water, Labarraque's solution, or a one-per-cent. solution of potassium permanganate. If the antivenomous serum can not be procured, subcutaneous injections of the calcium hypochlorite must be practised. The employment of large saline injections is also indicated.

Hæmaboloids and Hæmorrhoids.—We find the following in the *Medical Sentinel:* "A patient went into Woodard, Clarke, & Co.'s drug store the other day and called for a bottle of 'hæmorrhoids.' He said the doctor had ordered the medicine in tablespoonful doses three times a day, and the first bottle having been used up he had been directed to go and get another, because the medicine was working wonders. Mr. Woodard told the applicant that he thought a tablespoonful of well-matured hæmorrhoids, three times a day, would work wonders, but while they made a specialty of keeping in stock rare and uncommon drugs, they were just out of hæmorrhoids. Upon further inquiry it developed that the preparation which had produced such pleasant and desirable results was hæmaboloids."

The Pirogoff Museum.—In announcing the recent opening of the Pirogoff Museum of Surgery and Anatomy, in St. Petersburg, the *Chicago Medical Recorder* says that the building will serve not only as a museum, but also as the place of meeting of all the St. Petersburg medical societies.

Information for Candidates seeking Appointment in the Medical Corps of the United States Army.—Last week we announced that an examining board would sit in Washington in May. For the information of gentlemen who may intend to go before the board, we now print the following extract from the surgeon-general's circular:

The medical corps of the army consists of a surgeon-general with the rank of brigadier-general, six assistant surgeons-general with the rank of colonel, ten deputy surgeons-general with the rank of lieutenant-colonel, fifty surgeons with the rank of major, and one hundred and ten assistant surgeons with the rank of first lieutenant, mounted, for the first five years, and the rank of captain, mounted, thereafter, until promoted to major. Promotion through the intermediate grades of rank from that of captain to that of colonel is by seniority, but there is an examination for the rank of captain and another for that of major, to ascertain the fitness of the officer for promotion. Advancement to lieutenant-colonel and colonel takes place without further examination. The surgeon-general is selected by the president from among the members of the corps. All vacancies are filled by appointment to the junior grade.

To each rank is attached a fixed annual salary, which is received in monthly payments, and this is increased by ten per cent. for each period of five years' service until a maximum of forty per cent. is reached. An assistant surgeon with the rank of first lieutenant, mounted, receives $1,600 per annum, or $133.33 monthly. At the end of five years he is promoted to captain and receives $2,000 a year, which, with the increase of ten per cent. for five years' service, is $2,200, or $183.33 a month. After ten years' service he receives $2,400, after fifteen years $2,600, and if he remains a captain after twenty years, $2,800 a year. The pay attached to the rank of major is $2,500 a year, which, with ten per cent. added for each five years' service, becomes $3,250 after fifteen years and $3,500 after twenty years. The monthly pay of lieutenant-colonel, colonel, and brigadier-general is $333.33, $375, and $458.33 respectively. Officers, in addition to their pay proper, are furnished with a liberal allowance of quarters according to rank, either in kind or, where no suitable government building is available, by commutation. When traveling on duty an officer receives four cents a mile and reimbursement of money actually expended for railroad or other fares. On change of station he is entitled to transportation for professional books and papers and a reasonable amount of baggage at government expense. Mounted officers, including all officers of the medical corps, are provided with forage, stabling, and transportation for horses owned and actually kept by them, not exceeding two for all ranks below a brigadier. Groceries and other articles may be purchased from the commissary and fuel from the quartermaster's department at about wholesale cost price. Books and instruments are supplied in abundance for the use of medical officers in the performance of their duties.

In 1893 the secretary of war authorized the establishment of an army medical school in the city of Washington for the purpose of instructing medical officers who have been appointed since the last preceding term of the school, and such others as may be authorized to attend.

The course of instruction is for five months, and will be given annually at the Army Medical Museum, in Washington, beginning in November.

Five professors have been selected from among the senior medical officers of the army, stationed in or near the city of Washington, also an instructor in first aid and ambulance drill.

The faculty of the Army Medical School consists of—

1. *A president of the faculty,* who is responsible for the discipline of the school, and who delivers a course of lectures upon the duties of medical officers in war and peace (including property responsibility, examination of recruits, certificates of disability, reports, rights and privileges, customs of service, etc.).

2. *A professor of military surgery* (including the care and transportation of wounded and operative surgery).

3. *A professor of military hygiene* (including practical instruction in the examination of air, water, food, and clothing from a sanitary point of view).

4. *A professor of military medicine.*

5. *A professor of clinical and sanitary microscopy* (including bacteriology and urology).

A medical officer, after completing the course of instruction at the Army Medical School, is first assigned to duty as junior at a large military post. His stations after that are likely to alternate between the frontier and more desirable points, a tour of duty being usually four years at one place.

Leave of absence on full pay is allowed at the rate of one month a year, and this when not taken may accumulate to a maximum of four months, which at the end of four years is then available as one continuous leave. Beyond this an officer may still be absent with permission on half pay. Absence from duty on account of sickness involves no loss of pay.

Medical officers are entitled to the privilege of retirement at any time for disability incurred in the line of duty, or after forty years' service. On attaining the age of sixty-four they are placed upon the retired list by virtue of law. Retired officers receive three fourths the amount of their pay proper at the time of retirement.

When medical officers with the rank of captain approach the period of their examination for promotion to a majority they are usually assigned to duty as attending surgeons in the principal medical centres of the United States, to enable them to become familiar with the practice of the leading physicians and surgeons in this country, and to attend medical lectures, meetings of medical societies, etc. These assignments are made for one year only, in order that as many medical officers as possible may be enabled to avail themelves of the advantages thereby afforded. At the end of this tour of duty they are required to make a detailed report to the surgeon-general showing how much of their time has been occupied by their official duties and to what extent they have availed themselves of the advantages offered for professional advancement.

Appointments to the medical corps of the army are made by the president after the applicant has passed a successful examination before the army medical examining board and has been recommended by the surgeon-general. Due notice of the meeting of the board is published in the medical journals. Permission to appear before the board is obtained by letter to the secretary of war, which must be in the handwriting of the applicant, giving the date and place of his birth and the place and State of which he is a permanent resident, and inclosing certificates, based on personal acquaintance, from at least two reputable persons as to his citizenship, character, and habits. The candidate must be a citizen of the United States, between twenty-two and twenty-nine years old, of sound health and good character, and a graduate of some regular medical college, in evidence of which his diploma will be submitted to the board. The scope of the examination includes the morals, habits, physical and mental qualifications of the candidate, and his general aptitude for service; and the board will report unfavorably should it have a reasonable doubt of his efficiency in any of these particulars.

The physical examination comes first in order, and must be thorough. Candidates who fall below sixty-four inches in height will be rejected. Each candidate is also required to certify "that he labors under no mental or physical infirmity or disability which can interfere with the efficient discharge of any duty which may be required." Errors of refraction, when not excessive, and not accompanied by ocular disease, and when correctible by appropriate glasses, are not causes for rejection.

The mental examinations are conducted by both written and oral questions, upon—

I. Elementary branches of a common-school education, including arithmetic, the history and geography of the United States, physics, ancient and modern history, and general literature. Candidates professing to have special knowledge of the higher mathematics, ancient or modern languages, drawing, analytical chemistry, or branches of natural science will be examined in those subjects as accomplishments and will receive due credit therefor according to their proficiency.

II. Professional branches, including anatomy, physiology, chemistry, hygiene, pathology and bacteriology, therapeutics and materia medica, surgery, practice of medicine, obstetrics, and the diseases of women and children.

Examinations are also conducted at the bedside in clinical medicine and surgery, and operations and demonstrations are required to be made by the candidate upon the cadaver.

Hospital training and practical experience in the practice of medicine, surgery, and obstetrics are essential to candidates seeking admission to the medical corps of the army, who will be expected to present evidence that they have had at least one year's hospital experience or the equivalent of this in practice.

To save unnecessary expense to candidates residing at a considerable distance from Washington, those who desire it may have a preliminary physical examination and a mental examination in the "elementary branches of a common-school education," by a medical officer of the army stationed most conveniently for this purpose, who will act under instructions from the medical examining board.

The merits of the candidates in each of the several branches, and also their relative merit as evinced by the results obtained from the entire examination, will be reported by the board, and in accordance with this report approved candidates are appointed to existing vacancies or to such as may occur within two years thereafter. An applicant failing in one examination may be allowed a second after one year, but not a third. No concession can be made for the expenses of persons undergoing examination, but those who receive appointments will be entitled to travel allowances in obeying the first order assigning them to duty. There are three vacancies in the corps to be filled.

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Original Communications.

A FEW REMARKS
UPON THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

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We speak and read of the early stage of pulmonary tuberculosis as though it were some well-defined and easily recognized condition; whereas, in fact, the term is used by different observers, in describing the clinical history of a case, with the greatest latitude and often with little knowledge or respect for the true condition of the patient.

As to what constitutes an "early-stage case" there seems to be the widest difference of opinion. It is the difficulty that various observers experience in following a standard as to classification of patients that makes the statistics of cases published as cured so unreliable. One observer may use the greatest care in classifying, with the result that he shows a large percentage of cures in a given class. Another observer does not discriminate so carefully, fails to get as good a percentage cured, doubts the veracity of the first observer, creates discord and incredulity among the profession, and thus not only damages the reputation of the profession, but creates distrust in the minds of the public generally.

Before Koch discovered the tubercle bacillus a case was almost always classed as an early-stage case, provided the general appearance of the patient remained fair. Since that time we have learned to rely more upon certain physical signs, we have been much more thorough in our examination, and while we still rely upon the microscope to confirm our diagnosis absolutely, we are beginning to recognize that there is a possibility of making a diagnosis before the stage of expectoration has been reached.

Before Koch made this discovery but comparatively few cases were recognized as tuberculosis before they were hopelessly advanced; the physician having at hand no absolute means of diagnosis, he was perhaps prone to give the patient the benefit of the doubt, and with the results following it is no wonder that the laity to this day consider the disease incurable.

The profession to-day have, almost without an exception, recognized that the disease is curable, the prognosis depending in great part upon the diagnosis being made early; it will take the laity generations to realize and appreciate this fact.

I believe the profession of Asheville will bear me out in the statement that but comparatively few of the many cases sent here are what we should call early-stage cases.

It has been my experience that the early-stage cases met with here are in the persons of friends or relatives accompanying some more advanced patient. Becoming fearful that their association with tuberculous patients may have resulted in infection to themselves, and after being instructed upon the advantages and necessity of an early diagnosis, they present themselves for an examination, with the result that we frequently find evidence of a morbid process going on in the lungs unsuspected.

So-called first-stage cases usually embrace all cases up to the point of moderate infiltration in the lung, and possibly bordering on active cavity formation, without the advanced general symptoms.

As our experience in this disease grows we are becoming dissatisfied with the old classification. The first or early stage is being limited nearer to the time of infection; our early-stage cases to-day are those recognized before the stage of expectoration.

We have long recognized such a condition, and the tendency has been to call this a pretubercular state, or to convey to the patient the impression that he is threatened with tuberculosis.

Statistics from all observers go to show that those cases recognized during this period or immediately following it almost invariably do well, regardless of what certain line of treatment is followed, provided certain hygienic laws are observed.

Unfortunately, a large percentage will not consult us until the disease is well advanced; here we can, at least by the exercise of a little patience, early determine the true state of affairs. It would seem that no physician is excusable where a proper diagnosis is not made when the period of expectoration has been reached.

That such mistakes are made, however, we all know—made, too, by carelessness on the part of the physician, following a hasty physical examination; made often without removal of the patient's clothing. Without the use of a stethoscope, without the use of a fever thermometer, without a microscopical examination of expectorated matter, an opinion is given that the patient has "bronchitis," a "weak lung," or an ordinary "cold." The opinion coming from a physician in whom the patient has certainly some confidence, and often considers a smart man from his being able to so quickly pronounce his lungs sound, he goes off, takes the tonic prescribed, and for weeks goes about his business, losing his golden opportunity, relying upon the opinion given that he "will shortly be all right."

Again, he consults some timid brother of ours who, by the exercise of more care in his examination, arrives at the proper conclusion, and who, through mistaken kindness, does not tell him the truth; advises him to go to Asheville, that his lungs are weak—leaving for the Asheville physician to tell him his true condition, when, if he had been told the truth at once, he would have exercised more care and had more chance for recovery.

It is not the purpose, however, of this short paper to show why mistakes are made in diagnosis through carelessness on the part of the physician, but more as a plea for earlier diagnosis and to bring out a discussion as to the possibility of making a diagnosis before the stage of expectoration, at which time any careful observer is bound to arrive at the proper conclusion.

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* Read before the Buncombe, N. C., County Medical Society, October 4, 1897.

I have for years advocated that when a physician is attending a case of pulmonary tuberculosis he should, at least once a year, insist upon a physical examination of each member of the family, regardless of the subjective symptoms. Supposing, of course, the physician to be proficient in making a physical examination, he is certain, sooner or later, to find suspicious symptoms of a morbid process in the lungs of certain individuals. When his suspicions are aroused let him follow up the case carefully, and such cases as are tuberculous will have a much better prognosis for their being thus early determined.

I am informed by a cousin of mine, who has lived in Japan for years, that in certain parts of the empire the physician is free to examine the premises or any member of the household where he is employed at any time; he is paid a certain fee every year, provided no sickness occurs, and in case it does occur, he is compelled to attend the case without charge for the period during which the sickness continues, the disease being supposed to be the result of his neglect.

The subjective symptoms present before the stage of expectoration are so indefinite, if any exist, that but little importance can be attached to them. An exception to this occurs, however, when the patient has a hæmorrhage from his lungs as the first indication of lung trouble, or where a dry, chronic cough persists without apparent cause being found in the throat.

Pain, unfortunately, is rarely, if ever, complained of at this time. Unfortunately, I say, because if it were the rule, instead of the reverse, we would see our patients much earlier.

There can be no doubt that certain objective symptoms are always present long before the patient begins to expectorate, and if the physician had the opportunity of examining the case at this time he might demonstrate the same; moreover, if the physician had some means of coming in contact with the patients earlier it is quite likely that such clinical history would have resulted long ago in a better appreciation of the symptoms present at this the earliest stage of the disease. If, after a rigid examination, we are able to detect a slight relative dullness upon percussion; if we can determine a circumscribed area of harsh, rough, or bronchial breathing; if we find prolonged expectoration or interrupted respiration; if we can detect a suspicion of râles; if we can demonstrate either of them alone or associated one with the other, we should strongly suspect some morbid process, and, watching our patient carefully, should never relax our efforts until we have proved to our entire satisfaction that no tuberculosis is present.

Having our suspicions aroused, how shall we proceed to demonstrate that our supposition is correct; or, rather, how shall we proceed to show that no tuberculous deposit is present? First, and always, let us be on our guard against making a hasty diagnosis, or expressing an opinion before the patient which will in any way be construed by him as meaning that the trouble is slight. If you so assure him now, you will very likely have no further opportunity for investigation until he returns to you well advanced in the tubercular process.

In the absence of stronger evidence than above enumerated, Koch would have us give our patient a test dose of tuberculin. Experience has shown that it will assist materially in clearing up a doubtful diagnosis under such circumstances; but will not a drug which is capable of exciting a sudden rise of temperature from one to four degrees above the normal, when placed in the circulation and thus brought directly in contact with a tuberculous deposit, at the same time excite the deposit, which may be latent, into a more active process? Or, may it not, and, in fact, does it not, only produce this rise of temperature by the local congestion or inflammation of the diseased area? Are you willing to risk the consequences? Do you believe you would carry out such a procedure in your own person under such possibilities? If you would not, you have no right to use it upon your patients.

Such a method may do for testing cattle, but it will be slow in becoming a popular method with our profession. It is like hunting for a gas leak with a lighted candle.

Attempts are now being made to show that a blood examination at this early period will reveal an existing tuberculosis as certainly as will the presence of bacilli in the expectoration later on. Such a method would have everything in its favor. We trust there may be much in it, but in our ignorance we doubt it.

Being unwilling or unable to use either of these methods, we still have great resource in the temperature of the body. I have never seen a statement as to the time the temperature begins to deviate from the normal in pulmonary tuberculosis. This much I know, however, from my own observation, that it is not unusual for a slight daily rise to occur before the stage of expectoration has been reached.

To be of any service whatever the temperature record must be taken with the greatest care; the temperature should be observed every two hours for a period of several days, and an exact record of the same kept for comparison. A continuous normal temperature for several days or weeks does not exclude tuberculous deposit, but a slight rise of one or one and a half degree daily, when existing in connection with certain physical signs as enumerated above, does go far toward confirming our suspicions. Suppose such a rise of temperature is found associated with nothing more than slight relative dullness or harsh breathing over a circumscribed area in the lung; the symptoms continue for weeks, with perhaps intervening days when the temperature is normal; no other cause can be found. You are forced to reason by exclusion. What do you conclude? What can you do but conclude that you have a tubercular deposit at its early stage?

Dr. Babcock, of Chicago, at the last meeting of the American Climatological Association, held in Washington this summer, stated, in discussing this subject, that "a variation of one half degree or one degree from the normal daily temperature caused but little import." My experience certainly does not confirm this.

In all cases where I have observed the patient for weeks preceding the stage of expectoration I have invariably found a fluctuation of the daily temperature.

At a recent meeting of the society I alluded to the fact that we occasionally meet cases where the question of diagnosis between early tuberculosis and a beginning or mild type of typhoid fever was difficult to determine until after the lapse of several days. At that meeting one of the members took exception to what I said, and remarked that the symptoms present in typhoid fever were always sufficient to enable one to make a diagnosis. I wish to repeat that I do not believe all cases of typhoid fever must necessarily be severe in form, and, further, that the symptoms of a mild case, especially in the beginning, are in some respects similar to those observed in early tuberculosis. Moreover, the acute exacerbations of a tuberculous fever in the so-called first stage are sometimes mistaken for symptoms of other diseases, notably a common cold or typhoid fever, and are treated as such.

Let us remember that an early diagnosis is of more value, in reference to prognosis, than the administration of drugs.

So far as possible, let us examine the members of families we treat, especially so when some member is already suffering from tuberculosis, and, finally, let us remember that certain physical signs, when found concomitant with a daily rise of temperature over a series of days or weeks, are strongly indicative of tuberculosis, and, where the slight rise of temperature can not be otherwise satisfactorily accounted for, no hesitation should be entertained in pronouncing the condition probably one of tuberculosis.

EXPERIENCES WITH BOTTINI'S GALVANOCAUSTIC RADICAL TREATMENT OF PROSTATIC ENLARGEMENT.

DEMONSTRATION OF A MODIFICATION OF BOTTINI'S INCISOR AND OF AN ACCUMULATOR WITH AMPÈREMETER.*

By ALBERT FREUDENBERG, M. D.,
BERLIN.

It is a curious fact that Bottini's galvanocaustic radical treatment for enlarged prostate has until quite recently all but failed to command attention in the professional world.

As far back as 1875—*i. e.,* twenty-two years ago—the operation in point was performed for the first time. In 1877, after five successful cases, it was minutely detailed in Langenbeck's *Archiv,* and since then Bottini has often and boldly stood out for his method on the strength of a large number of conclusive instances.

Despite all this, it is only of late that we meet with reports respecting radical treatment, and, excepting Bottini, scarcely anybody has ventured to give the new departure a fair trial.

This is all the more striking as *a priori* it would be difficult to conceive of a more rational method than Bottini's, reestablishing *per vias naturales* a normal urinary passage.

There are three reasons explanatory of the fact that Bottini's method has failed as yet to be accepted by the profession. First, the difficulty of procuring the requisite instruments and formerly their inadequate construction, especially previous to the introduction of accumulators into electrotherapeutics.

Secondly, disinclination on the part of surgeons to operate without the direct guidance of the eye, a drawback now successfully met by the cystoscope.

Thirdly, the Guyon-Lannois theory of the origin of senile ischuria, attributing the urinary troubles in question not to the enlarged prostate, but to general arteriosclerosis of the urinary tract and secondary weakness of the bladder—a theory making it unreasonable to attack the prostate without restoring the force of the bladder.

I, for my part, have not the slightest doubt that the successes obtained by surgical interference, whether directly or otherwise attacking the enlarged prostate, will compel us to throw away this theory.

Moreover, Dr. Casper, in the year 1891, proved that the theory was warranted by anatomical facts.

To all appearance Bottini's method is presently destined to come in for a large share of favor, and perhaps I may claim a certain amount of credit in bringing about this turn by my paper on the subject read before the Medical Society of Berlin,* on the 24th of March last, and later on before the Congress of German Surgeons.†

Apart from five successful cases mentioned in this paper I have resorted to surgical interference by the galvanocaustic incisor in eight additional instances, bringing the total up to thirteen; on these individuals as many as sixteen operations have been carried out, reoperation in three cases being necessitated through inadequate results obtained by the first operation.

The ages of my thirteen patients ranged from fifty-five to eighty-one years. Eight of them had been suffering with complete retention of urine of from two months' to five years' standing. In the five remaining cases incomplete retention with intense paruria called for surgical treatment.

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* A paper read before the Surgical Section of the Twelfth International Medical Congress, in Moscow, August 21, 1897. Translated from the German by W. Koenig, M. D.

* *Berliner klinische Wochenschrift,* 1897, No. 15.

† *Verhandlungen der deutschen Gesellschaft für Chirurgie,* xxvi. Congress, 1897.

To these thirteen cases I beg to call your attention in the following:

All of my operations were performed without chloroform, cocaine only being applied as a local anæsthetic.

To anticipate the instances in which I failed to succeed, there were two fatal cases, urinary retention in the first being incomplete, in the second complete.

The first subject, a man of seventy-seven years and a half, very decrepit and suffering from chronic pyelitis, died as late as twenty-four days after being operated on, *in spite of*, rather than *because of* operative treatment, as I view it. The death in the second case—the patient succumbing to embolic pneumonia—must, I regret to say, be placed to the account of the operation. At all events, this case may be looked on as a great exception, for in ransacking the literature of Bottini's operation I have not met with an analogous instance. I am, however, cognizant of one fatal termination from a *similar* cause in a case of resection of the spermatic cords.

Placing aside these two subjects, in all the seven patients suffering with *complete* retention of urine, of from two months' to five years' duration, operative interference restored the faculty of spontaneous micturition. In four of them evacuation of the bladder ensued so well as to render further catheterism for the evacuation of urine unnecessary. The three remaining patients, it is true, are still troubled with a varying amount of residuary urine; allowing, however, for the brief period that has elapsed since the operation, I have hope of their further improvement in course of time, if necessary, by an additional operation. The four cases of *incomplete* retention of urine were all conspicuous by considerable improvement of cystospasm. To give an instance: in one subject in whom emptying of the bladder had formerly occurred as often as sixty to seventy times in the twenty-four hours, in spite of catheterisms and irrigations at regular intervals, the number of evacuations dropped to eight or ten.

Wherever cystitis had been present previous to surgical treatment, it was either completely cured or considerably improved, the latter happening even in a case of pyelitis.

The general condition in *all* my cases gave marked evidence of decided improvement. In all the patients in which the weight had been subject to regular observation, it increased considerably; for instance, to ten pounds in four weeks, and to five, nine, thirteen, and seventeen pounds within two months. One patient *gained even as much as twenty-eight pounds and a half in three months.* He was a man of eighty-one years suffering with complete retention of urine and a grave type of cystitis. While previous to surgical interference he had been pronounced beyond hope of recovery, he now presents the veriest picture of health, and since the 6th of March has urinated freely without catheterism. I do not purpose going more closely into the details of my cases, except of one which I believe should not pass unrecorded as lending color to the efficacy of Bottini's method and showing its superiority over the "sexual" operations still in vogue:

The patient, aged sixty-three years, had been attended by me as far back as 1893 for enlarged prostate and concomitant cystitis of a severe type. The residual urine amounted at that time to from seven hundred to a thousand grammes. Under appropriate treatment, consisting in catheterism and flushing out of the bladder at regular intervals, the vesical catarrh considerably abated; the quantity of residual urine remained on the increase. After a short period spontaneous evacuation of urine was totally abolished. This occurred between three and three years and a half ago. The patient, who scouted the idea of having to resort to catheterism for the remainder of his life, presented himself for treatment to a colleague of mine, who on June 5, 1894, removed both testicles, to no effect, however—the patient remained unable to pass even a drop of urine without the aid of the catheter.

On April 27, 1897, I subjected him to Bottini's operation. Five hours and a half later he spontaneously passed six cubic centimetres of a reddish-tinted urine, and this evacuation was followed up during the same night by three discharges of from one to seven cubic centimetres each, and non-sanguinolent to the naked eye. On the second day following the operation the amount of urine spontaneously evacuated rose to fifty-five cubic centimetres, on the third day to a hundred and thirty-two at a time.

On May 7th, ten days after the operation, the residual urine dropped down to fifty-five cubic centimetres. From the second day the services of post-operative catheter and irrigator were required but twice a day; after May 15th, eighteen days after the operation, only once, and after May 31st—*i. e.*, thirty-four days after the operation—there was no further necessity of drawing off the urine.

The amount of residuary urine was at that time in the morning from eleven to forty cubic centimetres; in the evening, from fifteen to fifty-two cubic centimetres. The temperature on the fifth day after the operation was 100° F.; the rise was attributed by the patient to an incidental attack of indigestion—otherwise he was normal.

At present the patient urinates from seven to eight times in twenty-four hours without the slightest difficulty, the stream being full and strong; and the urine—formerly, in spite of frequent irrigations, of catarrhal appearance—is now absolutely transparent and of healthy character.

Gentlemen, the case brought before you is theoretically of great importance, giving proof conclusive that relief subsequent to Bottini's operation is immediately brought about by removing the mechanical obstruction to urination constituted by the enlarged prostate. Professor Lennander, of Upsala,* recently threw out the suggestion that Bottini's method worked by simultaneously dilating the caput gallinaginis with the ejaculatory ducts, thus destroying ganglia and the nerves running to the seminal vesicles and ducts and having, on the whole, a similar effect to that of resection of the ejaculatory ducts.

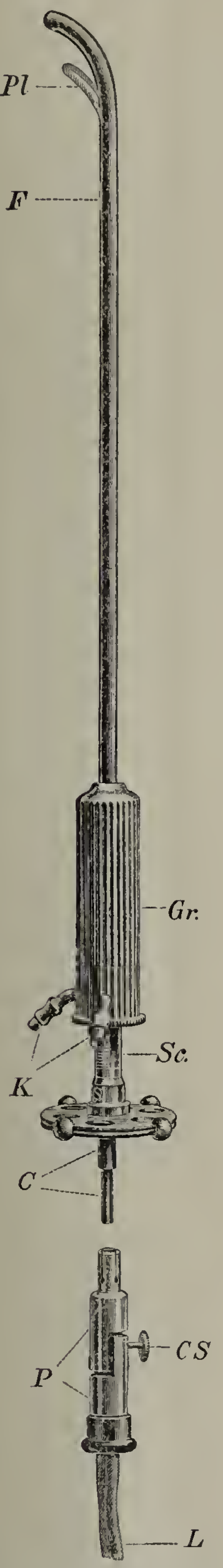

Fig. 1.—Incisor.—*Pl*, platiniridium blade; *K*, afferent and efferent tube of cooling apparatus; *Sc*, scale; *Gr*, handle; *C*, contact poles.
Cable Attachment with Conducting Wire.—*P*, cable-contact poles; *CS*, contact screw for interpolation and interruption of current; *L*, conducting wire.

That Lennander's views are incorrect is incontrovertibly borne out by my case, and a similar one has been observed by Bottini.

But the *theoretical* importance of the case is even capped by the *practical* suggestions arising from it. The *success obtained gives rise to grave doubts whether we are still justified in subjecting a patient to castration for reinstating the urinary flow before giving Bottini's operation a trial.*

And the same would apply to resection of the spermatic ducts—if the results obtained by Lackur,† who by resecting the spermatic ducts in healthy animals caused atrophy of the testicles, might be caused in men suffering from prostatic enlargement.

In summing up, I profess to have proved that surgical treatment of the enlarged prostate, as designed by Bottini, is well deserving of general attention, and, provided my future experience continues to corroborate my present views, I should not hesitate to pronounce Bottini's method one of the greatest blessings of latter-day surgery.

I avail myself of this opportunity to show you a modification of Bottini's incisor of my own designing, which I am inclined to regard as an improvement.

The modifications in point are relative to shape, handiness, and electrotechnical construction, *affording at the same time the possibility of sterilization.*

The modified instrument (see Fig. 1) is provided with a stout, cylindrical, grooved handle, strong and steady in the hand, quite resembling the well-known handle of a lithotrite (Fig. 1, *Gr.*).

The cooling apparatus (Fig. 1, *K*) is inserted on this side of the handle, instead of at its farther extremity, thereby obviating incalescence of the handle, and securing the rubber hose of the cooling apparatus from being compressed by the ulnar aspect of the hand.

In lieu of the platinum blade I have made use of platiniridum (Fig. 1, *Pl*), this alloy being harder, and so less apt to bend, and by reason of its electrical resistance permitting of the employment of a weaker current for rendering the blade incandescent.

Another addition consists in the conduction of the current ascending to the knife within the guide through a single wire only, equaling in volume the two wires used in the original instrument; the descending current passing through the hull proper, and, by reason of its close contact with the cannula, through the entire length of the external instrument. Moreover, greater steadiness of the blade, riveted as it is to the inflexible hull, has been insured. The connection of the instrument with the conducting wires has been achieved by a process corresponding with the axis of the instrument and leaving both poles in a concentric arrangement (Fig. 1, *C*). A slight jerk will move up the corresponding cable attachment (see Fig. 1) to which the cables are fastened; these are united to one conducting wire, and owing to the improvements of electrical construction are much thinner than formerly.

Interpolation and interruption of the current are effected by a minute contact screw (Fig. 1, *C*, *S*), superseding the special interrupter of the original apparatus.

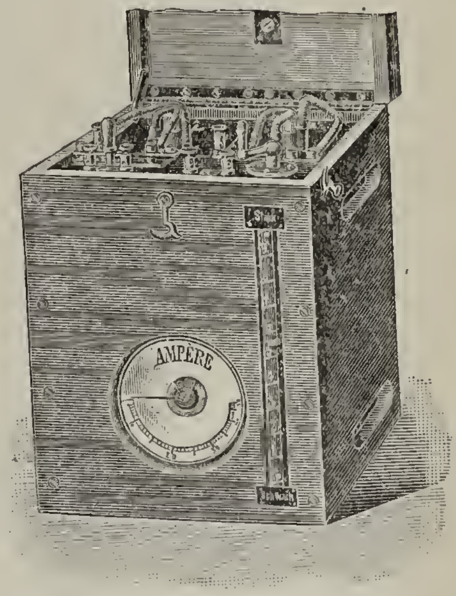

Fig. 2.—Accumulator with amperemeter.

The last and, as I view it, most important alteration is the employment of a water-proof and heat-proof putty, which, by tightening and isolating the apparatus, allows of its *being treated in toto like any other surgical instrument, not only as to antiseptic solutions, but as to sterilization in boiling water,* a process you could not formerly have applied without seriously damaging the instrument.

The new departure is sure to meet with appreciation, especially when one is promiscuously dealing with septic and aseptic bladders.

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* Lennander. Zur Frage der sexuellen Operationen bei Prostatahypertrophie. *Centralblatt für Chirurgie*, No. 22, June 15, 1897.

† *Therapeutische Monatshefte*, 1896, ix, pp. 180–189.

You will readily understand that these modifications and additions in no wise detract from the merit of Bottini's original ingenious idea—viz., galvanocaustic dissection of the prostate gland *per vias naturales*, and, by the simultaneous employment of a refrigerator, securing the neighboring parts from incalescence.

To Bottini we are indebted for the conception of that ingenious idea as well as for its realization in the construction of an instrument highly efficient even in its original form.

Nevertheless, I hold that my innovations are deserving of general acceptance. In conclusion, I beg to show you an accumulator (Fig. 2) constructed for Bottini's operation, which, however, may be employed in any other galvanocautery. It is *fitted up with an ampèremeter.*

The idea of adding an ampèremeter was suggested to me by the fact that in practising the Bottini method the degree of incalescence of the blade after being introduced into the bladder was beyond the control of the eye.

The ampèremeter allows one at any time to read the strength of the current permeating the instrument, thereby getting an exact indication of the temperature of the blade.

A minute description of the modified incisor is given in the *Centralblatt für Chirurgie*, No. 29.

A CASE OF
PRIMARY SARCOMA OF THE HEART.*

By ALEXANDER LAMBERT, M. D.

J. C., aged thirty-nine years. Irish. His father died of phthisis. He had measles and whooping-cough when young. He has had pain in the joints, but no other rheumatic symptoms. He had an attack of grippe three years ago. He is a moderate drinker, and smokes and chews. He drinks considerable coffee. He has had gonorrhœa, but denies syphilis. Ten years ago he was kicked in the chest by a horse, and suffered from a broken sternum and several broken ribs in the pericardial region. During the past two years his voice has changed from deep bass to one that is husky and high-pitched.

The present illness began five days before admission. The patient had been shoveling snow in the streets for two days, and when he came home at night he had a chill, followed by dyspnœa and pain in the chest. He was forced to go to bed. He had a cough of a distressing character, with muco-purulent expectoration. His appetite was poor and he vomited a little; since then the symptoms have persisted. He complained of pains across the chest, beneath the shoulder blades, in the small of the back, and at the lower end of the sternum. On admission his temperature was 100.8° F., the pulse 90, and respiration 36.

The patient was well nourished, the jugular veins were prominent, the face was slightly flushed, and the pupils were dilated. The chest bulged slightly on the right side in front. There was exaggerated breathing at the right apex in front, with prolonged and high-pitched expiration and broncho-vesicular voice. Behind, on the right side, there was dullness of the entire lung, with diminished vocal fremitus; from the spine of the scapulæ to the base the voice was of a nasal quality and diminished. The breathing was very much diminished. Just below the angle of the left scapula there was a small area where the breathing was exaggerated, with prolonged and slightly high-pitched expiration and broncho-vesicular voice and crepitant râles.

The heart apex in the fourth intercostal space was an inch and a half internal to the mamillary line. The sounds were weak, but no murmurs were present. The second pulmonic sound was not exaggerated. The action was somewhat irregular. The pulse was small and compressible. The liver extended an inch and a half too far downward and was tender on pressure. The spleen was large and there was tenderness over its area.

The patient's pneumonia developed in areas in both lungs, and cleared up in a week, except a patch on the right side behind, at the level of the eighth rib, which persisted. Ten days after admission a pericarditis friction rub was heard, but no fluid could be demonstrated in the sac. At the same time a pleurisy developed in both pleural cavities, with effusion in both cavities. The fluid drawn from the right pleural cavity was bloody, while that from the left was clear serum. The patient perspired profusely. There was marked cyanosis of the face and neck, extending to the clavicles, while the patient was lying down; when he sat up the face became white, though the lips remained blue, and there was then a distinct though slight cyanosis of the body as far down as Poupart's ligaments, the legs remaining white. For nineteen days longer the pneumonic patch persisted. The profuse sweating and cyanosis remained, also the dry pericarditis. During this time, when the left chest became filled with effusion and the heart was pushed over to the right side, the right pupil became dilated. When the fluid was withdrawn the dilatation of the pupil disappeared, and the heart resumed its normal position. The effusion had to be withdrawn several times, but finally a little fluid was left in each pleural cavity, as the patient suffered less pain while the effusion separated the inflamed surfaces of the pleuræ. On the thirtieth day after admission the legs became œdematous, there was fluid in the abdominal cavity, and fluid could be demonstrated in the pericardial sac. The fluid accumulated rapidly in the pericardial sac and in the pleural cavities, and the patient died thirty-two days after admission. During his illness the temperature ranged from 99° F. to 101.8° F. with no special regularity, or with any marked irregularities. The pulse at first ran from 90 to 64; later it ran from 76 to 54. The respirations were from 20 to 40 during the first days of his illness; later from 36 to 50 a minute. The respirations were deep, though frequent.

The urinary examination on admission showed normal urine. Later there was a fair amount of albumin present, and the specific gravity was 1.035, but no sugar was present. There were no casts. The blood examination on admission showed 6,455,000 red cells, and 20,000 white cells.

The following report of the post-mortem examination is from Dr. Harmon Brooks, pathologist of the Fourth Division:

The body is that of a well-developed adult. General nutrition is good. The skin is cyanosed over the entire body, and extremely so over the face and upper portion of the thorax. Post-mortem congestion is marked over the posterior surface of the body. The subcutaneous connective tissue of the entire body is extremely œdematous, that of the face and of the pendent portions of the body being most marked. The muscles of the trunk and extremities are soft and flabby.

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* Read before the Society of Alumni of Bellevue Hospital, November 3, 1897

The abdomen is distended; it is tympanitic over the dome, but the percussion note over the sides is dull. Rigor mortis is not present. There is a small amount of panniculus adiposus. The muscles of the chest and abdominal wall are soft, anæmic, and extremely œdematous. On incising the wall the abdominal cavity was found to contain two litres of a clear, straw-colored serous fluid. The anterior border of the liver is forced downward, so that its margin projects ten centimetres below the costal border. The pleural cavities are distended on both sides by approximately four litres of clear fluid similar in character to that found in the abdomen. The superior surface of the liver is closely adherent to the diaphragm. The capsule is considerably thickened, and in areas over the superior surface is covered by recent adhesions. The liver is of a dark-clay color. The circumvascular connective tissue is considerably increased in amount. It is firm in consistence. The cut surface is granular. The weight of the liver is three pounds and a half. The external surface of the spleen is covered by recent adhesions which bind it closely to the parietal peritonæum. The capsule is thickened and contains several nodular fibroid masses. The spleen is symmetrically enlarged. The tissue is firm, but breaks easily. The Malpighian tufts are prominent. The color is dark purple.

The right kidney weighs six ounces, the left eight ounces. The capsules are thickened, and they are generally and intimately adherent. The markings are indistinct and irregular. The cortex is thin. The tissue is firm and not granular. The color is a dark purple. The circumvascular connective tissue is increased in amount. The capillaries, especially those of the cortex, are congested. The pelvis is apparently normal. The ureters are normal.

The stomach is normal in size, and it contains a small amount of partly digested food. The mucous membrane is congested and is thickened in areas; the intestines present no lesions; the mesenteric nodes are not enlarged. The pancreas is large, the tissue is firm, and it is light pink in color. In the head of the pancreas is found a circumscribed round nodule, four centimetres in diameter. It is situated on the anterior surface of the pancreas. The tissue is soft and is of a pronounced pink color. It contains many blood-vessels which are greatly congested. It is surrounded by much inflammatory tissue which is apparently of recent origin.

The peribronchial lymph nodes are slightly enlarged. They are firm, and on section presented no evidence of caseation or of metastatic neoplasm. The lungs are emphysematous. In the middle of the posterior portion of the right lower lobe is an area of pneumonic consolidation measuring eight by five centimetres.

The pericardial sac is greatly distended, measuring in its long axis twenty-two centimetres, and from side to side eighteen centimetres. The sac is somewhat peculiarly shaped, the larger end being that directed downward. No pleuro-pericardial adhesions are present. The sac is tense and smooth to the touch, but above where it joins at the root of the aorta a large, firm nodule is felt. On incising the sac about one litre of blood-stained fluid, containing many masses of fibrin, escaped. Both visceral and parietal pericardium are completely covered by a thick recent deposit of fibrin shreds. The entire internal surface of the pericardium is covered with numerous firm white nodules, in places fused into masses. The new growth is most abundant over the posterior and lateral surfaces of the pericardium. The growth has, apparently, taken place in the connective tissue below the endothelial layer, as the nodules are covered in all places apparently by the endothelial coat. On incision the nodular growths were found to be of firm consistence and almost pearly white in color. The growth is thickest about the root of the aorta, so that the aorta and vena cava are considerably pressed upon by it.

The wall of the left ventricle is almost completely involved in an apparently similar neoplasm. The growth has extended completely through the wall of the heart from the root of the aorta down to within an inch of the apex. Nodules of the growth were found in other parts of the heart wall, but the growth is apparently of longest standing in the anterior wall of the left ventricle, where very few traces of normal heart tissue remains. The growth extends to the aortic segments, the attached borders of which are involved in the growth. The trunks of both pneumogastric nerves, together with the veins at the base of the heart, are pressed upon by the growth. The growths in the heart wall are covered externally by the external endothelial coat, and internally by the endocardium. The cerebrum, cerebellum, and bulb show no gross lesions. The spinal cord was not removed below the third cervical segment.

Microscopical examinations of the nodules in the pancreas, of the growths in the pericardium, and of the heart wall give in each case the same picture—that of a typical small, round-cell sarcoma. The nodule found in the pancreas seems to be the most recent, since it is surrounded by areas of inflamed tissue, and the blood-vessels are less perfectly formed here than in the other portions of the growth. The vessels are also more numerous here. The microscope fails to reveal any points of distinction in the character or relative age of the growths found in the pericardium and in the heart wall.

The enlargement of the lymph glands seems to have been entirely inflammatory, and, though several were examined, no evidences of neoplastic invasions could be detected.

It is difficult to determine the point of the original growth from a study of the specimens. The nodule in the pancreas is very evidently the most recent, but no direct evidence is present as to whether the neoplasm was primarily in the heart or in the pericardium. The area of the heart most involved, it will be noticed, is that supplied by the left coronary artery, and the large nodule described lies directly over the origin of this artery. One should consider that this nodule occupies the space in which we usually find lymph glands belonging to the chain following the left coronary artery. But it appears extremely improbable that the growth should have originated in these nodules, for these reasons: The structure of the neoplasm is not characteristic of lymph sarcoma. If the original growths were of the lymph glands, we should expect to find other glands of the same chain involved, and a careful examination has fully excluded this possibility.

The growth is thought to be a primary one of the heart, for the following reasons: 1. The nodule in the pancreas is too small to have existed for a time sufficient for so extensive a metastatic invasion of the heart and pericardium to have taken place, and, at the same time, not to have involved, to a greater extent, the surrounding tissues; besides, the structure of this tissue shows it to be plainly a recent and active growth. 2. The heart wall has, as stated, been in places completely replaced by the neoplasm, while the largest areas of the pancreas involved are small in comparison. 3. If the growth had been primary in the pericardium, we should in all probability have found other metastatic growths distributed along those areas supplied by the same vascular trunks. Again, if the growth had been primary here, we should expect to find the endothelial coats broken through and ulcerated.

Primary sarcoma of the heart, while rare, is not of such infrequent occurrence as primary connective-tissue tumors of the pericardium, of which the writer has been unable to find a single authentic case yet reported.

The clinical diagnosis of this case was double pleurisy with effusion and pneumonic areas in the right lung at the eighth rib behind; pericarditis and a mediastinal tumor at the root of the right lung affecting the junction of the vena azygos major with the superior vena cava, the tumor being either tuberculous or sarcomatous. The enlargement of the liver and spleen was thought to be due to cirrhosis. The diagnosis of the mediastinal tumor was based on the change in the voice, the slow pulse, and the dyspnœa, this dyspnœa being present whether there was fluid in the pleural cavities or not, and especially on the peculiar cyanosis which changed with the posture of the patient and was always limited to certain areas, depending upon the posture. These areas were those drained by the superior vena cava and the azygos.

The occurrence of primary sarcoma of the heart is so rare that the following statistics, taken from Whittaker's article in the *Twentieth Century Practice,* may be of interest: Tumors of the heart are usually secondary. In the cases collected by Berthenson neoplasms had developed in the heart cavities twenty-seven times. Of these neoplasms nine were sarcomata, seven myomata, six fibromata, two gummata, and three each carcinomata and cystic tumor. They had developed in the right auricle seven times, in the right ventricle three times, in the left auricle seven times, and in the left ventricle five times. Of the twenty cases in which the sex was mentioned, eleven had occurred in men and nine in women. Of the nine cases of sarcomata, eight had been round-celled sarcomata, and one giant-celled. Redtenbacher has reported a case of primary angeiosarcoma of the pericardium and heart, the symptoms being those of pericarditis and bilateral pleuritis with effusion.

THE EARLY DIAGNOSIS OF TABES.*

By PHILIP MEIROWITZ, M. D.,
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There is but little difficulty in diagnosticating tabes when the symptoms, particularly that of incoordination or ataxia of the lower extremities, are well developed. It is in the earlier stages of the disease, before the patient experiences difficulty in walking or standing with closed eyes, that mistakes are frequent, often to the detriment of the patient and to the humiliation of the physician. Errors are often made, however, not alone by confounding tabes with other affections, but by mistaking various affections for tabes. In the latter case the diagnosis is made altogether *too* early. This usually occurs when muscular incoordination is the most obtrusive symptom which the patient presents.

A word of explanation with reference to the nomenclature of the disease under consideration may not be misplaced. I have purposely preferred to employ the term "tabes," since it presents fewer objectionable features than do other designations, as "locomotor ataxia" and "posterior spinal sclerosis." The disease under discussion frequently presents itself without ataxia; in such cases the terminology "locomotor ataxia" is unwarranted. Again, the symptom ataxia may present itself markedly in non-tabetic diseases which could with equal justice be termed "locomotor ataxia"; indeed, they are so termed by mistaking the nature of the non-tabetic affection. As the pathological anatomy of tabes involves often more than changes in the posterior columns of the spinal cord—for example, degeneration of the peripheral and cranial nerves—the designation "posterior spinal sclerosis" is misleading. The term "tabes" carries with it neither the misleading idea of a symptom nor the imperfect notion of a pathological structural change; hence it is preferable to the others.

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* Read before the Harlem Medical Association, June 2, 1897.

The symptoms which have been enumerated by different writers as forming part of the manifestations of tabes are legion. In a statistical study of nineteen cases of tabes, Robinson * enumerates forty-five different symptoms presented by them. And yet the list is by no means exhausted. Fortunately, a discussion of the diagnosis of tabes does not involve the consideration of every one of these symptoms. A few of them are sufficient to enable a careful observer to recognize the disease.

The course of the disease is usually divided into three stages. This division has reference to the alteration in the gait. In the first stage the gait presents no abnormity. In the second stage the gait is distinctly affected, but the patient is able to walk alone or with the aid of sticks or crutches. In the third stage the patient can not walk without the assistance of another person, or he is unable to walk or stand at all.

Typical cases present symptoms which leave no room for doubt. The most important of these, which need not, however, be present simultaneously, are the incoordination or ataxia of the lower extremities; the loss of the knee-jerk; the loss of reflex contraction of the pupil on exposure to light, while accommodation for near vision is preserved; sudden, sharp, "lightning" pains, most frequent in the lower extremities; objective sensory disturbances in the skin; impairment of the bladder and sexual functions, and painless changes in the joints and bones.

Some of these symptoms may not show themselves throughout the course of the disease. Particularly is this true of incoordination. This is important, since many physicians invariably associate the condition of incoordination with tabes, and conversely the absence of incoordination is taken to mean the absence of tabes. When the disease presents itself in the first stage, errors in diagnosis are most apt to occur.

The most common symptoms in the earliest stage of tabes are the pains and the loss of myotatic irritability, as expressed by the absence of the knee-jerks.

The pains are frequently the very earliest manifestation of the affection, and in slight and non-progressive cases may be the only symptom the patient has.

These pains possess interesting characteristics, which give them a quasi-pathognomonic significance. They are variously described as "burning," "tearing," "gnawing," "lancinating," "lightning," "fulgurating," "electric," and "stabbing." They are sudden and paroxysmal in their onset; they may come on at any hour of the day or night, may be localized or diffuse, corresponding to some nerve trunk, may rapidly alter their position, or may be superficial or deep-seated. They occur most frequently in the lower extremities, but may also appear in the arms, head, and trunk.

Although these are the usual characteristics of the pains, they do not always present such features. In some cases the pains are dull and slight, and are frequently mistaken for rheumatic pains.

Sensory disturbances other than pains are common in the first stage of the disease. Thus analgesia without loss of tactile sensation may be present. The patient may feel the prick of a pin as a touch, but not as a pain. This disturbance is generally observed first in the lower extremities. Quite recently Bonar * has called attention to the existence of large areas of anæsthesia in the early stage of tabes. This loss of sensation may involve any area of the skin, but is not usually noticed by the patient unless the extremities are affected, in which case the patient may observe that he can not feel objects held in the hands, or that he does not perceive the bedclothes with his feet.

Paræsthesias, such as numbness or prickling, and anæsthesia in the area of the distribution of the ulnar nerves in the hands are sometimes complained of early by tabetics.

Loss of sexual power is another symptom which often occurs early in the course of tabes. Although the sexual power of the patient may be maintained until he is unable to stand alone, impotence may be the first symptom which impels him to seek the counsel of the physician.

Disturbances of the functions of the bladder may occur early. These may manifest themselves by sluggish micturition or by incontinence. The patient may not be able to start the urinary stream readily, or he may be unable to completely evacuate the bladder, thereby running the risk of developing cystitis and secondary kidney disease. Incontinence of urine may occur only at night, the patient waking in the morning to discover the saturated bed sheets.

Although atrophy of the optic nerve occurs in but about ten per cent. of the cases of tabes, it is generally an early symptom. It is a curious fact that in cases in which the optic nerve becomes affected there is a tendency for the disease in the cord to come to a standstill. In a considerable percentage of these cases incoordination of the extremities never develops. The atrophy of the optic nerve and the resultant condition—namely, amblyopia—may for a long time be the only objective and subjective symptoms. The atrophy generally affects both sides, though not necessarily in an equal degree. The appearance of the discs is characteristic. At first they become pale, owing to a wasting of the capillaries of the nerve; subsequently the discs

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* *Philadelphia Hospital Reports*, vol. ii, 1893.

* *Medical Record*, vol. li, No. 21.

become gray or white, and present a marked contrast to the healthy pink tint of the fundus. It goes without saying almost that, no matter what the disease may be, every case which presents abnormities of vision—such as amblyopia—should be subjected to a careful examination with the ophthalmoscope and the perimeter. By means of the ophthalmoscope the cause of the impairment of visual acuity, if it be in any part of the eyeball, may be discovered. The perimeter will often reveal contraction of the visual fields unsuspected by the patient. It is pardonable, therefore, if great stress is laid on the immense importance of the ophthalmoscopic and the perimetric examinations.

Diplopia, due to paralysis of the external ocular muscles, is usually one of the early manifestations of tabes. As it may only be transient, lasting but a few days or weeks, it is important, when eliciting the previous history of the case, not to omit questions regarding the possible pre-existence of double vision. Permanent paralysis of the external eye muscles is less common in the earlier stages of the disease. Any or all of the muscles supplied by the third, fourth, and sixth cranial nerves may become paralyzed, but the external rectus suffers most frequently.

Paralysis of the vocal cords has also been observed in the early stages.

Disease of the joints and bones, due to impaired nutrition, and consisting of erosion of the cartilages, atrophy or hypertrophy of the bones, and ossification of the tissues and ligaments, occurs in some cases in the first stage of tabes. These changes are doubtless due to disease of the trophic nerves. As a result of the atrophy or hypertrophy of the heads of the bones, fractures are extremely liable to occur spontaneously and without violence, and the movements in the joints may be exaggerated or limited—*i. e.*, there may be hyperextension or hyperflexion in the joints, or the opposite conditions may prevail. The most remarkable characteristic of these changes is their painlessness, which is due to impairment of the sensory nerves.

Various visceral disturbances, particularly the so-called gastric crises, may occur in the preataxic stage. The gastric crises are attended by great pain in the epigastrium and by vomiting. They last, as a rule, for several hours, and recur at varying intervals of days or weeks, during which the stomach functionates normally. Next to the gastric crises, the laryngeal are the most common. These may also appear in the early stage of the disease, and are characterized by laryngeal spasm, dyspnœa, loud inspiration and expiration, and by cough. Gowers makes mention of "a patient still in the first stage who gave a history of gastric crises during the preceding eighteen years." How lamentable it would be to attribute in such a case the gastric or laryngeal symptoms to derangement of the stomach or the larynx!

Any one or several of these symptoms may be present in the preataxic stage of tabes, but, although they present characteristics which would cause one to strongly suspect the existence of the tabetic process, they do not allow a positive diagnosis to be made. It is therefore of the utmost importance that search be instituted for other signs or symptoms which are relatively more important. Of these, the most important one to which attention should be directed is the condition of the knee-jerk. The loss of the knee-jerk is one of the earliest and most common symptoms. It may be present years before incoordination develops. Considerable care should be exercised in testing the knee-jerk. Disregard of this caution has misled many a physician. It is true that the knee-jerks can not be made to appear after they have once been abolished, but the mistake which has often been made is that of pronouncing the knee-jerks absent when in reality they are present. This error may be due to faulty methods of examination, or may be due to unconscious inhibition by the patient. In testing the knee-jerk, the patient is requested to cross the thighs in such a manner that the supported leg swings easily and freely. The patellar tendon may then be struck either with the edge of the hand or with a percussion hammer. In fat subjects, who can not readily cross the legs, the leg to be tested should be supported by the observer's hand, which rests upon the opposite limb of the patient, or the patient should be seated upon a table and the legs allowed to hang clear of the floor. When the patient is suspected of inhibiting the phenomenon, his attention should be distracted from the test by causing him to perform some movement with the upper extremities, such as interlocking the fingers and pulling on the hands. When the knee-jerk is obtained in the latter manner, it is said to be obtained by "re-enforcement."

The combination of any one of the symptoms mentioned with the loss of the knee-jerk makes the diagnosis of tabes extremely probable. But there are still two other signs, either of which, when combined with the loss of knee-jerk and any of the symptoms already detailed, makes the diagnosis absolutely certain. They are the loss of the pupillary reflex to light and the atrophy of the optic nerve. Of the two, the loss of pupillary reflex to light is by far the more common, and is, indeed, one of the most important diagnostic signs of tabes. It rarely occurs in any other disease excepting progressive paralysis of the insane, which is closely allied to tabes. In examining for this sign, care must be taken that the patient does not fix upon some near object, as accommodation, in the majority of cases, is preserved.

When impairment of vision, or amblyopia, is complained of, ophthalmoscopic examination of the interior of the eyeball and perimetric measurements of the fields of vision are imperative. It is only with the aid of the ophthalmoscope that the presence of atrophy of the optic nerves can be detected. This sign, which only exceptionally occurs in the later stages of tabes, is also one of the most important. It may for a long time be the only sign discoverable. It is the only sign which, taken alone, permits the diagnosis of tabes to be made without much risk of an error.

Very rarely cerebral symptoms appear early upon the scene. These are in the nature of transient apoplectiform attacks, of convulsions, or of transient hemiplegia. Their position, however, in the scale of diagnostic value is low.

Other symptoms occur with more or less frequency in the preataxic stage. These are analgesia of the ulnar nerves to compression (Biernecki), the girdle sensation, spontaneous loss of the teeth, with sensory disturbances in the area of distribution of the trigeminus, etc.

The relative importance of the early signs and symptoms of tabes may be expressed in the numerical order as follows:

1. Atrophy of the optic nerves. 2. Loss of the knee-jerks. 3. Loss of the pupillary reflex to light. 4. Lancinating pains. 5. Analgesia. 6. Bladder weakness. 7. Girdle sensation. 8. Gastric crises. 9. Cranial-nerve palsies. 10. Arthropathies.

Any combination of these signs and symptoms may occur, but it is to be borne in mind that without one or more signs the diagnosis can only be probable, not certain. Excepting atrophy of the optic nerves, no one of these alone is sufficient upon which to base the diagnosis of tabes.

There is one disease, paretic dementia, which may be mistaken for tabes. Being closely allied, they present many symptoms in common. The differentiation rests upon the presence or development of psychical symptoms, disturbances of speech, and paralytic attacks.

The study of a few cases of tabes will help to elucidate the foregoing.

Case I.—R. A. L., fifty-four years of age, married; a truck-driver by occupation. He came to the Post-graduate Clinic in April, 1896, affected with tabes in the second stage. His history shows that in the preataxic stage he had been suffering from symptoms the import of which had not been recognized by the physicians whom he consulted for relief.

Six years before, in April, 1890, the patient suffered from a transient weakness of the internal recti muscles of the eyes. When he looked at any object a convergent squint showed itself. This condition lasted about three weeks; he then got glasses and has not been troubled since.

Two years later, hydrocele of the left tunica vaginalis testis appeared, and persisted for a period of five months. The affection was cured by operation.

In 1893, about a year subsequent to the operation, he began to suffer from bladder weakness. Since that time he has never been able to pass his urine freely. He has been compelled at times to wait as long as ten minutes before the urine would flow. On three occasions it has been found necessary to catheterize him. The urine has never dribbled.

In 1894, while housing hay, he met with an accident, since which he has been continually affected with a sense of pressure on the top of the head. The rope by which a bale of hay was being hoisted snapped, and the bale was precipitated upon the end of another, on which our patient was standing at that moment. The impact caused him to pitch headforemost on a pile of manure, where he lost consciousness, and remained so for about a quarter of an hour.

In October, 1895, he experienced a sudden, sharp, lightninglike pain on the inner aspect of the left thigh. For about a month the pain reappeared daily in the same place. Thereafter it traveled up and across the groin to the back of the thigh, and then appeared in the lumbar region. He consulted physicians, and was told that he was troubled with "sciatic rheumatism." The pain was always confined to the left side. Excessive walking would cause a dull pain to appear in the right tibial region.

A month after the appearance of the acute pains above described he experienced the girdle sensation. He felt as though "a rope had been tied around the abdomen and was being pulled by two men." At all times he feels as if he were being squeezed. This girdle sensation ceases only after he has undressed himself and gone to bed.

A few weeks later he discovered that he could not walk as well in the dark as in the light. While walking through a dark stable he repeatedly fell down.

He also suffered from disturbances of cutaneous sensation other than pain. Walking short distances made his legs feel as though they were swathed in ice-cold bandages. At other times he suffered from numb feelings in the legs.

He has always been habitually constipated, and in this respect is no worse now than before the onset of his tabes. He has also lost a great deal of strength.

On reviewing the history of this case, we find that the preataxic stage lasted about six years. The first symptom of this stage appears to have been transient weakness of the internal recti muscles. For three years no symptom of any importance; then came bladder weakness. Two years later the characteristic pains showed themselves, and shortly afterward paræsthesias. None of these symptoms alone would warrant the diagnosis of tabes, but, taken in conjunction, the diagnosis is practically certain. It becomes absolutely certain when one of the characteristic signs is added, as the loss of the knee-jerk or the loss of pupillary reaction to light. We know that the latter was never present, for his pupils responded well, both to light and in accommodation, when he was examined at the clinic. Although his knee-jerks were absent at the time of the examination, it was impossible to say how long they had been lost.

Had all the symptoms of this case been taken into consideration, he would not have been told that he was suffering from "sciatic rheumatism."

Case II.—J. H. McG., thirty-three years of age, single; clerk; second stage of tabes. Requires the aid of a stick in walking.

In 1883 he had several ulcers on the penis and a balanitis. These were not followed by secondary symptoms of syphilis. A few years later he began to indulge in alcohol to an inordinate extent, and during the three years prior to the time when he first consulted us at the Post-graduate (August, 1896) he had posed nightly as a disciple of Bacchus. This trait he probably inherited from his father, who had the habit of developing a veritable mania for alcohol about once in ten years. He then would continue drinking liquor uninterruptedly for a year or two. "During the last spell he wasn't sober for twenty minutes in two years and a half." Aside from the fact that a sister of the patient is inclined to melancholia, and that another died of consumption, the family history presents nothing of note.

In the summer of 1894 he noticed that on mounting stairs a sense of fatigue, as well as a bandlike sensation, appeared in the calves and about the legs. Soon thereafter his waist became the seat of sharp, darting pains, "as though produced by the blade of a knife." They remained localized, mainly about the waist, though they occasionally appeared in the leg. In this case also the pains were mistaken for rheumatism, and the patient was treated with plasters and castor-oil until, as he expressed it, he "was almost dead."

Some time after the appearance of the pains came bladder troubles. He had a constant desire to pass urine. At night, while in bed, the urine would escape from the bladder. During the day the urine would dribble to the extent of perhaps a wineglassful. At times he would be entirely unable to pass water. A physician was consulted for these bladder disturbances, but it does not appear that he recognized the underlying condition.

The patient became impotent eight months before the development of ataxia in the lower extremities. For twenty months prior to the time of his first visit to the clinic he had no seminal emissions. These various symptoms—namely, the disturbances of sensation in the legs, the sharp pains about the waist, the impairment of the functions of the bladder, and the impotence—should have made the diagnosis easy.

CASE III.—A. W., fifty-nine years of age, married; boiler maker. This case is interesting from the fact that in him the tabes was due, apparently, to concussion of the spinal cord. A history of syphilis or alcoholism could not be elicited. The accident occurred in 1880. In examining a boiler for the purpose of determining which tubes required repairing, a heavy iron door, weighing between seven and eight hundred pounds, and insecurely held in position, fell (through the carelessness of a coworker, who kicked away a stick supporting the door) and struck the patient on the back. He was rendered senseless for about five minutes, after which he resumed work, but felt weak. Having finished his work, he walked home and went to bed. The next morning his wife, on arousing him, found him so stiff that he could not move. He was compelled to keep the bed for three or four days, and suffered some pain in the back. Several days later he was able to go back to work. During the year following he suffered from some neurasthenic symptoms. He lost his ambition, lacked energy, and could not do his work as well as formerly. Headaches, from which he had suffered before the accident, became more frequent and severe, lasting often from twenty-four to forty-eight hours. At times they were so intense as to prevent him from working. He felt as though "the eyes were being pushed out of their sockets."

In May, 1895, his condition was the following: He suffered from severe, sharp, quick pains in the arms, legs, back, and other parts of the body. The pains in the arms could be checked by squeezing the extremity. They were often so intense that he wished his existence were at an end. At times various paræsthesias showed themselves in the lower extremities; he would feel as though he were walking on feathers; again, while in bed, he would have a burning sensation in the feet, which would cause him to protrude them from under the covers. He could not at all times walk well in the dark. He also complained of some difficulty in urinating, having been frequently compelled to wait four or five minutes before the urine would begin to flow.

Examination showed no impairment of the gait; there was but little swaying on standing with the eyes closed. The right patellar reflex was gone; the left knee-jerk was normal; sight was good in both eyes, but somewhat less in the left than in the right. The latter showed an external strabismus, which he attributed to the fact that he was compelled to shut the left eye, on account of the glare of the fire, while working at the furnaces. Hearing was impaired in both ears; this seems to have resulted from constant hammering on sheet iron.

I think there can be no question about the diagnosis in this case. The severe, almost unendurable pains, the interference with the normal functions of the bladder, and the loss of the knee-jerk on one side, all point to tabes.

Unfortunately, part of the history of this case was lost; in consequence, the condition of the pupils can not be described.

Reference has been made in an early part of this paper to the close relationship existing between tabes and progressive dementia; the latter may for a long time present the symptoms of tabes, and be only distinguished from the former on the advent of psychical symptoms. The following is a case in point:

CASE IV.—W. S., fifty-two years of age, married. During childhood the only diseases of consequence from which he had suffered were whooping-cough, mumps, and small-pox. At twenty he contracted an ulcer on the penis, which does not seem to have been followed by secondary symptoms of syphilis. At thirty-four he had gout in the left big toe. He was otherwise healthy up to three years prior to his examination, in July, 1894. At that time he began to be troubled with an excessive production of saliva. It compelled him to expectorate continually. He could obtain some relief by holding a handkerchief in the mouth. On several occasions he had symptoms which I would interpret as paræsthesias of the special cranial nerves; thus one night while in bed he was much annoyed by a hissing in the ears, which resembled the sound of escaping steam; it led him to believe that a fire engine was outside of the house. On other occasions he would get dizzy on sudden motion, and a darkness would come before the eyes; he would then see a disc resembling a white plaque and covered with arboriform figures.

From time to time he would be afflicted with sharp, quick pains, of short duration, in the legs. He would get other pains, less severe, which commenced in the knee and radiated down to the ankle. These would last from several hours to an entire day. At different times he would be unable to hold the urine during the night; he would be compelled to get up three or four times to evacuate the bladder. His memory for recent events had been much impaired. The activity of his sexual functions was much diminished. For a period of fourteen months he had had no sexual intercourse.

On examination, it was found that the knee-jerks were lost and that he had the Argyll-Robertson pupil in both eyes. These signs, with the symptoms already detailed, justified the diagnosis of tabes. His condition remained about the same for nearly a year. The change then was extremely marked. The condition of dementia was well developed. At times he was unable to answer simple questions. At other times the only response to many questions would be "Yes, sir," "Yes, sir." His speech was thick and inarticulate. On one occasion he urinated from the window into the street. He had what appeared to be hallucinations of sight; he would slowly turn the head halfway round and fix his staring gaze on some object. His memory for acquaintances or their names seemed to have been blotted out.

The excessive secretion of saliva never ceased. It was doubtless due to irritation of the central end of the glosso-pharyngeal nerves.

It is thus seen that this case was one of progressive dementia, which for a long time presented only the symptoms of tabes, but which eventually disclosed its true nature by the onset of the mental trouble.

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THE OPERATIVE TREATMENT OF HÆMORRHOIDS.*

By PARKER SYMS, M. D.

As the scope of this paper will be limited to a consideration of that branch of the subject indicated by the title given, I shall have nothing to say concerning the ætiology, pathology, or symptoms of hæmorrhoids, nor shall I here discuss the varieties of the disease nor attempt to specify the indications for operative procedure, but I shall pass at once to the subject properly before us, and speak only of the operative treatment of hæmorrhoids.

There are three well-known and approved methods of operating upon hæmorrhoids—namely, first, by ablation and ligation, known as Allingham's operation; second, resection of the entire hæmorrhoidal area, known as Whitehead's method; third, ablation of the hæmorrhoidal masses by means of the clamp and cautery.

A large experience in the treatment of this disease has given me a favorable opportunity of testing these various methods, of which I have taken advantage, and I feel fairly qualified to speak of their individual advantages and disadvantages. I have tried them all, and have carefully weighed their value, and have thereby arrived at the conclusions which are the basis of this paper.

The objects to be attained in operatively treating a case of hæmorrhoids are as follows:

First, to completely cure the patient of the trouble for which you operate; secondly, to subject the patient to the least compatible risk; thirdly, to accomplish the desired object with the least possible delay; fourthly, to occasion the patient the least amount of suffering; fifthly, to produce the least possible deformity and disability in the parts involved.

Whitehead's method involves the patient in a rather formidable operation. It necessitates a considerable loss of blood, and this is an important matter in cases of this disease, for the patients are frequently debilitated and anæmic from the frequent hæmorrhages which are a prominent symptom of hæmorrhoids. It depends for its success upon a primary union of the wound, and therefore upon aseptic healing in a region where asepsis is most difficult to obtain. In a certain proportion of cases infection will occur, and the wound will break down by inflammation and the patient will be exposed to the danger of general septic poisoning. When these wounds are inflamed and primary union fails, the healing will be very tedious and protracted, and the circular scar which results will eventually contract, and in some instances will cause a permanent stricture at the anus. Two such cases have come under my care recently. It may be said in its favor that it is a radical procedure, and when all goes well the final healing and cure are rapidly attained, but the risks to the patient, as set forth above, are too great to be lightly considered, and I feel that it is an operation to be avoided in the vast majority of cases.

The operation known as Allingham's, which consists in excision of each hæmorrhoidal tumor with ligation of the vessels at its base, is an excellent operation in most instances, and is free from most of the risks involved in the Whitehead operation; but it is a less radical operation than the operation by the clamp and cautery, involves a greater loss of blood, takes longer to perform, and is attended by a greater amount of post-operative pain. Therefore I prefer the operation to be described.

Operation by Clamp and Cautery.—This operation can be rapidly performed. In most cases it may be completed within five minutes. It is attended by very slight loss of blood. It is radical if properly performed, curing not only the hæmorrhoids themselves, but also the tendency to rectal prolapse which is often present. In my experience the healing has always progressed satisfactorily and without inflammatory complications, and the patients suffer less after the operation than under the other methods. By this method the final result is excellent, and the functional power of the anus is never impaired.

The operation is performed as follows: First, as regards the preparation of the patient. The patient should be restricted to a simple, plain diet for two days before the operation, from which must be excluded all forms of alcoholic beverages. The bowels should be relieved by a purgative two days before the operation, and by a saline on the day prior to the operation.

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* Read before the Society of Alumni of Bellevue Hospital, November 3, 1897.

The lower bowel should be cleansed by an enema about six hours before the time for the operation. No enema should be given subsequent to that time. If this plan is carried out the rectum will be found empty and in proper condition for the operation. At the time of the operation the parts about the anus should be thoroughly washed, but no shaving will be necessary.

After the patient has been thoroughly anæsthetized and placed in the lithotomy position, and of course the parts properly cleansed, the sphincter muscle should be thoroughly stretched. This must be done slowly, but very thoroughly. To accomplish this, lubricate the two thumbs with green soap, introduce first one and then the other, and make steady traction forward and backward until the muscular spasm has been overcome. Further divulsion may be accomplished by crowding the fingers of one hand together in the shape of a cone, after they have been properly lubricated, and forcing the hand into the anus. This stretching of the sphincter is one of the most important steps in the operation. It must be done thoroughly, but of course it must not be overdone, and experience alone can guide the operator to the proper exercise of judgment in this matter.

When the patient has been anæsthetized and the sphincter divulsed, one will be able for the first time to make a satisfactory examination of the rectum, and the field should be thoroughly searched for ulcerations, fistulæ, fissures, or any other abnormity. All the prominent hæmorrhoidal masses should be grasped in large blunt forceps, such as fenestrated sponge holders, and brought well out of the anus, producing a temporary prolapse of these masses. Should the entire circumference of the anus be involved by hæmorrhoids, it should be dealt with in three or four sections, each section containing a group of the most prominent hæmorrhoids, but leaving the intervening mucous membrane untouched.

Each mass should be so seized by the forceps as to raise its entire base. Now the mucous membrane should be cut through at the anal margin as far as the width of the mass to be removed. Next, the entire mass should be grasped in a special hæmorrhoid clamp, which should be constructed on the plan of the clamp devised by Dr. Smith. The clamp should be applied in the direction of the long axis of the rectum, and not transversely. Next, the mass so grasped is to be trimmed off with scissors, but sufficient of the base should be left to be dealt with by the cautery. Now, the whole cut surface is to be seared with the Paquelin cautery at a dull red heat. Next, the clamp is to be removed, and the stump carefully examined to be sure that there is no bleeding. (In rare instances it will be necessary to apply a ligature to the bleeding point.)

This completes the operation. In a majority of cases two or three masses must be thus treated. The after-treatment is very simple. The bowels should never be constipated, and if they do not move spontaneously on the second day a saline should be administered, and after that the patient should have a movement daily. The only local treatment I recommend is external bathing, and the insertion twice daily for the first week of a suppository containing five grains of iodoform.

While this operation is a simple one to perform, a great deal of care is necessary in carrying out each step, and it is only by experience that one can learn just how much or how little to do; but this is equally true of every method of operating.

If properly performed, the result is always satisfactory. Convalescence is virtually painless, and the function of the rectum and anus is not in the least impaired. During the last four years I have performed this operation considerably over one hundred times, and every patient has recovered without any complication.

60 West Forty-seventh Street.

THE HISTORIES OF THREE MORBID SPECIMENS.*

By CHARLES PHELPS, M. D.

I. PERITONEAL HYDATIDS; LAPAROTOMY.

The patient, an active business man, fifty-one years of age, had suffered previous to his final illness only from attacks of colic, which, though frequent and sometimes severe, were always brief. On an evening in June he rode upon his bicycle and fell, striking his abdomen upon some part of the machine without receiving appreciable hurt; indeed, it was only after some questioning that he remembered the fact of injury. After his return to his house he had a large movement from the bowels, which was followed by severe pain in the epigastrium; this pain was continuous and increased in severity. On the third day vomiting began; the temperature, which had been below 100°, rose to 102.8°, and the pulse to 110; the pain, tenderness, and abdominal distention were all more marked upon the right than upon the left side. I saw the patient at this time in consultation with his physician, Dr. Dan. H. Smith, who concurred in the opinion that operation should be immediate, and laparotomy was done without unnecessary delay. A perforation was discovered just below and a little to the right of the umbilicus, from which escaped a few bubbles of odorless gas and a seemingly endless succession of milky white gelatinous plaques and of cysts, mainly of minute size, but no fæcal matter. The almost invincible adhesions of the intestinal folds to each other and to the abdominal wall had prevented the invasion of the peritoneal cavity, if such could be said to exist, and at the same time made it impossible to obtain a clear conception of the conditions which actually existed. As the strength of the patient soon began to alarmingly fail, the perforation was closed by a purse-string suture, and further exploration was abandoned. Death occurred eighteen hours later.

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* Presented at a meeting of the Society of Alumni of Bellevue Hospital, December 1, 1897.

Upon necroscopic examination access to the peritoneal cavity was found to be quite as difficult as during life, and it became necessary to remove the thoroughly and firmly agglutinated intestinal mass entire before its parts could be separated and their pathic relations determined. It was then discovered that three large peritoneal cysts were attached to the greater curvature of the stomach, and six to the ascending and transverse portions of the colon, each containing from eight to sixteen ounces of turbid fluid in which floated a large amount of disintegrated material, both in granular and laminated form, and innumerable apparently living cysts, varying in size from that of a robin shot to that of a pigeon's egg. The perforation, recognized during life, was in one which was attached to the cæcum. They were all developed from the subserous tissue and none communicated with the lumen of the intestine or with the cavity of the stomach. The adhesions were mainly of long standing and of exceeding strength. No pus had been formed near the site of perforation, but three pockets, each holding from half an ounce to an ounce, were found in the left lumbar region. There were no cystic formations or other evidences of disease in any of the viscera or in other part of the body.

Subsequent examination in the laboratory proved the hydatid nature of the disease, though no hooklets were discovered in the fluid or in the few cysts which were inspected.

I am unaware of any previously reported case in which these parasites have remained in the subperitoneal tissue, through which, after penetration of the intestinal wall, they must first pass on their way to more or less distant parts of election. Though no tissue or organ is exempt from their lodgment and growth, they seem in no recorded instance even by accident to have been halted at this first step of their progress. I am cognizant, however, of two unpublished cases of somewhat similar character disclosed in postmortem examination; one of these only was in the human subject. In this case, in which the morbid condition was discovered by Dr. Ira Van Gieson in the deadhouse of a suburban hospital, and without history, the small cysts which existed seemed to have been derived from a previous invasion of the liver. The other, which was noted by Dr. End. K. Dunham, was in a monkey, and in this instance numerous cysts of the size of a marble floated free in the peritoneal cavity, or were connected with the mesenteric folds.

The case represented by the pathic specimen presented is noteworthy from the great size of the peritoneal tumors, which, with the extent and solidity of the peritoneal adhesions, indicate an amount and duration of serious disease remarkable in view of the history of the patient. He must have suffered, probably for years, from a chronic or recurrent peritonitis of considerable intensity which, with the gradually increasing morbid growths, had practically obliterated the peritoneal cavity, and yet remained of robust physique, a free liver, engaged in active outdoor pursuits, and without suspicion that his health was otherwise than perfect, his attacks of colic being no more severe or protracted than those which often attend simple indigestion.

II. RECURRENT SARCOMA; AMPUTATION OF BOTH LOWER EXTREMITIES ABOVE THE KNEE.

The patient, a girl, seventeen years of age, without hereditary predispositions, first noticed an enlargement of the right knee in October, 1895, which proved to be the result of sarcomatous disease, and led to an amputation of the thigh in February, 1896. Necrosis of the end of the bone was followed by an abscess and a sinus which was not healed till after the removal of the sequestrum, in April, 1897. In July, 1897, the left knee became the seat of a dull pain without swelling or other indication of organic change. I had removed the necrosed bone, and seeing the case at this time was inclined to refer the pain to some strain put upon the joint in an effort to get about without the aid of crutches. She was then treated by a physician with starch bandages for three weeks for supposed rheumatism, and on August 1st entered a hospital, where a diagnosis of synovitis was made and a plaster-of-Paris apparatus applied till September 1st. She was then sent home as cured, but without having been examined by the attending surgeon. At that time, however, she states that the knee was much enlarged, and that a small immovable tumor could be felt in the popliteal space. The enlargement of the knee was rapid, the popliteal tumor could no longer be isolated, and the nature of the affection was subsequently recognized by Dr. Martin Burke, who was called to attend her, and with whom I saw her early in October. The knee was then swollen, tense, and the seat of constant and severe pain, which was allayed only by the continued use of morphine. I advised immediate amputation, not with the hope of radical cure, but as the only practicable means of relieving pain with a possibility of some indefinite prolongation of life. The operation was done October 18th through the lower and middle thirds of the thigh, the growth being then in rapid progress, perceptible almost from day to day, the pain intense, and the patient anæmic and cachectic. The wound closed by primary adhesion, the constitutional condition at once improved, and recovery from the operation was complete.

The soft tumor, which has been lost by inexplicable negligence, apparently originated from the periosteum in the intercondyloid space of the femur, was of soft consistence, vascular, and from its gross characteristics evidently a sarcoma. The lower part of the femur, with which it was in contact, is roughened by the formation of a shell of new bone, and the cartilage of incrustation of the femoral condyles in great part destroyed. The tibia was not involved. An examination of a portion taken from the knee was made by Dr. End. K. Dunham and "proved to be composed of atypical hyaline cartilage so rich in cellular elements" that, in his opinion, "a diagnosis of chondrosarcoma was justified."

I am informed by Dr. Robert Abbe, who made the first amputation, that the primary tumor was a round-celled sarcoma which originated beneath the periosteum of the right tibia, and that its growth was exceedingly rapid. The knee joint was invaded, but the condyloid surfaces of the femur were unaffected, as was the tibial surface of the joint in the more recent instance. In a very careful examination of the left knee made by Dr. Abbe about the middle of August, no evidence of the impending recurrent disease was discoverable.

The rapid and painful growth of the tumors, in not more than two or three weeks in the first instance and in less than two months in the second, their histological characters, and the early recurrence of the disease in a distant part of the body, notwithstanding early operation, indicate in this case a type of extreme malignancy and profound constitutional implication.

It is possible that the first impression, both of Dr. Abbe and of myself, that the discomfort then felt in the left knee was from strain and overfatigue in the effort of getting about without crutches, was correct. This may well enough have determined the manifestation of the recurrent disease in that particular part.

Up to the present time the constitutional condition has continued to improve, and there is as yet no indication of the probably inevitable recurrence of the disease.

III. DEPRESSED FRACTURE OF THE CRANIAL VAULT; LATE TREPHINATION.

The patient, a man sixty years of age, sustained in July, 1895, a compound depressed fracture of the right parietal bone near its anterior superior angle. His history previous to his admission to Bellevue Hospital in September, 1897, is derived from his own statements, which seem sufficiently worthy of credence. The injury was occasioned by a blow, and he remained unconscious for a number of hours. On the fourth day he again lost consciousness, which was not regained until two or three days later. He was confined to the bed for seven weeks. After that time he suffered from constant vertigo and general headache, both aggravated at intervals, and the headache at times more severe in the frontal or in the occipital region. A discharge from the right ear, beginning two weeks after injury, persisted for several months, and deafness in that ear never has been relieved. In July, 1897, he began to have attacks of vertigo so severe that he fell unconscious in the street; these continued up to the time he entered the hospital, sometimes twice in the day, and sometimes with intervals of several days. He could give no further account of the paroxysms, and none occurred during the ten days which elapsed from the time of his admission to the hospital to the time of operation. A button of bone which included the entire depression was removed by a Galt trephine three eighths of an inch in diameter. The visible depression was confined to the external table which was driven into the diploe. The inner table had been fractured independently, and a fragment an inch wide by an inch and a fourth in length had been driven downward, but not detached posteriorly, and was now consolidated in its whole extent with the superincumbent calvarium. As the thickening of the bone was not limited anteriorly to the portion removed by the trephine, it was necessary to enlarge the cranial opening in that direction for five eighths of an inch in order to insure relief from osseous pressure. As the dura mater had been uninjured, and there was no indication of gross cerebral injury, operation was not carried further than this procedure.

The resort to operation in this case was not due to any confidence in its efficacy in general as a method of treatment in Jacksonian epilepsy. The beginning of the paroxysms, however, was so recent that there seemed a possibility that some good might be derived from interference, more especially if, as it actually happened, their obvious cause should be found to be confined to the osseous lesion.

The wound was closed by primary adhesion, and recovery was immediate. The time which has elapsed since operation is still too short to permit more than a statement of its direct results. There has been no recurrence of vertigo, not even when a stooping posture is assumed, and there has been no headache, except on rare occasions, when it seemed referable to constipation. Muscæ volitantes, to which the patient had called attention as a persistent annoyance, have disappeared. The patient makes much of his ability to open or close either eye independently of the other, which, since the accident, had been stricken from his list of accomplishments. There has been no epileptic seizure. The expression of his face remains somewhat pained from a retraction of the upper lip, which has existed since he first came under observation. Whether or not this general improvement will continue is, of course, problematical; pressure has been removed, but the nutritive changes which it has occasioned and the possibility of ultimate repair are unknown quantities in the equation.

The essential interest in this history of a case resides, not in the incident of late operation with its chances of ultimate failure or success, but in its illustration of the danger of neglect of early elevation of depressed bone in fracture of the cranial vault. As in this instance, the amount of depression of the external table of bone is never a guide to the extent of injury which is concealed; and the late results of unrelieved depression of the internal table are too serious to be left to the arbitrament of chance, when safety lies in immediate though possibly futile exploration. It is one of the mysteries of surgical practice that under the influence of tradition there should be any difference of opinion or procedure in a matter so well settled both in theory and by the teachings of experience. In a recent publication I have adverted to this still too common error in treatment.

PAIN AS A SYMPTOM IN DISEASES OF THE ABDOMINAL ORGANS.

By M. GROSS, M. D.

THE symptom of pain by itself can aid us in the formation of a correct diagnosis only in a very limited number of cases; often, however, it serves as a guide to our further examination.

The radiation of pain, which is especially pronounced in diseases of the abdominal organs, frequently hinders its localization and true interpretation in a concrete case. The direction of pain radiation is commonly one centripetal to the stomach, or rather to the hypogastric region; on the other hand, the radiation from the gastric region downward is rarely clearly marked, but occurs rather upward and sideways, and particularly backward toward the spine. This fact aids us in tracing pains felt in the epigastric region to their true source, and guards us against errors and false deductions.

Thus it happens that many patients, for the reasons stated, as well as through inattention or because they really localize incorrectly, give the stomach as the seat of painful sensations which do not arise there, and often, perhaps, have their location in the epigastrium (the epigastric pain of Briquet), being the result of cutaneous hyperæsthesia. Besides, owing to defective self-observation, a great many of our clients are not very particular about the site of painful sensations.

Another kind of pain is produced by *ballottement*—that is to say, when we make deep and rapid pressure upon certain parts of the abdomen, this pressure *per se* may be hardly painful, but when it is suddenly relaxed the patient may experience a most disagreeable pain. I am unwilling to decide whether in such cases we are justified in assuming an affection of the retroperitonæum.

In this connection I wish to make mention of Burkhart's pressure points—namely, on making deep pressure toward the retroperitonæum in the region of the superior hypogastric, the aortic, and the cœliac plexuses, the patients feel more or less violent pains which sometimes radiate upward toward the pit of the stomach; this is a fact which I am able to confirm fully.

It behooves us to be especially careful in the localization of pain in neurasthenic and hysterical patients. In the neurasthenic the propagation of the irritation from the diseased point in other directions is much more easily effected, largely owing to the existing increased irritability of the anastomosing nerve cells and of the nerve conduction. As a result of this capricious and therefore indistinct increased irritability in the neurasthenic, it must be evident to us that it is frequently impossible to recognize a neurosis, and that only prolonged observation, careful investigation of the history, and attention to the general condition of the patient will enable us to make the diagnosis from an organic disease. In such cases it is not feasible to make a diagnosis from the painful manifestations, together with the other positive findings and the temporary complaints of the patient, and particularly so because not rarely true organic affections are associated with neurasthenic states.

The uterus with its appendages is often the source of the most various radiations, especially toward the epigastric region. If we bear in mind that even the normal functions (menstruation, gestation, etc.) in their course may be connected with disturbances, it will not appear surprising that these are apt to be still more marked in pathological conditions. I need only mention the different complaints of the patients in cases of amenorrhœa, dysmenorrhœa, the climacteric, and chronic diseases of the uterus, which are associated with an irritated state of the uterine nerves, perhaps with actual dragging upon them. In some women and girls cardialgia occurs regularly with or before the menses and in a few cases takes their place. It is clear that the sexual affection alone does not produce the attack of cardialgia, but that some additional factor, an abnormal irritability, must be superadded to call it forth.

As early as 1883 Kisch called our attention to these conditions. Violent neuralgias in the gastric region have not rarely been relieved by straightening a retroflexed uterus.

Chronic peritonitic processes and cicatrices after extensive operations frequently give rise to manifold sensations which radiate upward, especially toward the epigastric region.

Gastralgias are also observed in consequence of diseases of the male sexual organs—*e. g.*, in gonorrhœa, in stricture, and particularly in spermatorrhœa.

Many explanations have been given of the pain caused by pressure upon the xiphoid process. I have been able to produce this pain in thirty per cent. of healthy persons, or at least those who made no complaint of disturbed gastric function. Of course we know that this can not always be associated with a perfectly intact stomach; but in patients with disease of the stomach and intestines the proportion has been different, there having been only about twelve per cent. who failed to perceive pressure in the epigastrium.

We see, therefore, that in general we can not always attach a diagnostic importance to this pressure pain in the scrobiculus cordis. The pain often can not at all be referred to the stomach, and this will be understood if we bear in mind that palpatory pressure may involve at most the left lobe of the liver, and only when deep may it mediately reach the stomach, in which case the pain may come from the liver rather than from the stomach. In many cases there is only a hyperæsthesia of the skin, possibly corresponding to a concomitant affection of the stomach. More rarely, perhaps, the pain may be referable to more deeply seated structures (the cœliac ganglion); that is, in cases in which anterior pressure elicits painful points also on the spinal column or higher up between the shoulders.

In cases of violent, constant, and spontaneous pressure pain, radiating backward, we shall, of course, be forced to assume tangible causes.

Violent pain, therefore, in the region of the stomach, even to the point of severe gastralgia, may have its origin in some form of perigastritis. In such a case the stomach is diffusely sensitive on pressure, but may also present areas of local pain. Pain at the spinal column may occur; it begins about half an hour after meals, continues during the act of digestion, and depends upon the quality and quantity of the food.

The pain, moreover, may be due to affections connected with secretory anomalies, especially hyperacidity of the gastric juice; often even the normally acid secretion may give rise to pain in its various gradations by irritation of the hyperæsthetic gastric nerves. This pain usually occurs when digestion is at its height, and likewise depends upon the quality and quantity of the food. The positive diagnosis of hyperchlorhydria can be made only after removal of the stomach contents and quantitative determination of hydrochloric acid. The condition may be suspected, however, when there are frequent or regularly recurring pains which set in some time after meals, and can be rapidly relieved by the additional ingestion of albumin or alkalies, particularly when the general health is good. In simple hyperchlorhydria not associated with ulcer the painful attacks do not occur so regularly as they are usually observed in ulcer; besides, in hyperacidity there is an absence of the circumscribed pressure pain.

These conditions can often be traced to a hyperæsthesia of the gastric mucosa—that is to say, states in which the nerves which pass into the mucous membrane of the stomach, owing to their morbid instability, are extremely irritable, and consequently react more rapidly and more powerfully upon normal and still more so upon excessive stimuli. Hyperæsthesias may also occur in the course of general diseases, such as chronic nervous affections, liver trouble, malaria, and anæmia.

Thus we find in malarial disease, especially in the masked form, hyperæsthesias of the stomach which may culminate in atrocious pain; the other symptoms of malarial disease (enlarged spleen, vertigo, vomiting, fever, etc.) will guide us in the right direction.

In such cases we shall not be deceived by the sensation of irritation, which may be of long or short duration, which may depend or not upon the meals, and which represents a permanent feeling of heat or burning in the stomach, or else appears in stormy exacerbations that often become so prominent in the ordinary and psychic life of the patients as to lead them to connect all their sensations with the stomach. The purely nervous nature of these disturbances in other cases, however, is indicated by the hyperæsthesia moderating after the ingestion of food and increasing as the stomach becomes empty.

Einhorn, and subsequently Pariser, have attempted to present a clinical picture of hæmorrhagic erosions of the gastric mucosa. In this condition we find burning pains in the entire gastric region, along with diminished ingestion of food and emaciation. The pains occur in connection with the meals, beginning from a quarter to three quarters of an hour after the ingestion of food and persisting about two hours. They are not, however, as in the case of ulcer, confined to a definite point, and dorsal pressure pain is absent. According to Pariser, the pains are especially characteristic: they are burning, hot, and gnawing, not pulsating and burrowing as in ulcer.

Still, I believe that some importance must be attached to the fact that in these affections neither pressure nor change of position will produce any aggravation or moderation of the pains. I, too, find the pain much more violent than Einhorn describes it, and agree with Pariser, who, as stated above, has always observed it to be intolerable. The character of the pain, however, is not decisive in this affection, and more importance should be ascribed to the presence of pieces of gastric mucosa in the wash water and the absence of hydrochloric acid.

In hyperæsthesias of the stomach of a purely nervous nature, in which such causes in particular as hyperacidity and motor disturbance can be excluded—in other words, in which no material disease is present—we often find sensitiveness on pressure and percussion, which is strictly confined to the limits of the stomach, and thus permits us to trace its outline on the surface before we have formed any idea of its position, size, and shape in the individual case. In case of ulcer, likewise, the whole of the gastric region may be painful on touch; but there are always certain points which are especially sensitive, aside from the fact that the pain depends upon the quality of the food.

If now we turn to the gastralgias in general, which are due either to local causes or irritative states of the extragastric nerve groups, we find the pain characterized as boring, cutting, sometimes strictly localized, sometimes more diffuse or girdlelike. Cutaneous hyperalgesias of the abdominal walls are present; deep pressure occasionally relieves the pain. It radiates along the spinal column; at times extremely painful points along the spine and in the course of the lumbar nerves can be demonstrated. The attack of gastralgia as such, therefore, possesses nothing typical in comparison with many other paroxysms of pain of the abdominal organs. In the differential diagnosis, gastric ulcer might be suspected. Violent localized pains are indicative of ulcer when, according to Boas, a painful point is situated diametrically at the spine about the level of the eleventh or twelfth dorsal vertebra. On the other hand, acute and chronic inflammatory adhesions or agglutinations of the stomach to intestinal loops may produce pain resembling that of ulcer. The pain in cases of ulcer is sometimes localized solely at the back along the spine, and is connected with the taking of food, depending largely upon the quality and quantity of the latter. The pain sets in thirty or forty minutes after meals; changes of position augment it.

Relatively the most useful differential point between gastralgia and cholelithiasis is the sensitiveness of the marginal portions of the liver on pressure in the region of the gall bladder.

In nephrolithiasis the pains radiate from the region of the kidneys downward toward the bladder and the thighs. In renal colic due to stone the pain is tearing, extending from the region of the kidneys along the ureter into the bladder and radiating toward the urinary meatus and the testicles.

We are frequently consulted by patients suffering from burning, crushing, or even stinging, non-radiating pains which are located about in the splenic region and farther forward. Pressure upon the affected points produces no sensation; the painful region extends forward toward the stomach, also downward along the side as far as the crest of the hip bone, more rarely backward to the spine. The patients often bear these pains for months or years, though sometimes they are merely periodical. These pains, which are most troublesome to the patient and to the physician likewise, may arise from various causes.

Among the direct causes coming in question are local forms of peritonitis around the spleen (perisplenitis), enlargement of the spleen in malaria and leucæmia; moreover, anæmic and debilitated persons of sedentary habits very frequently complain of these pains. Furthermore, local peritonitic processes about the point where the transverse changes into the descending colon may give rise to such pain. The processes about the flexure are probably the result of fæcal accumulations in chronic constipation, and the angle of flexion becomes still sharper when the transverse colon is greatly distended below, whereby, of course, the removal of the contents is further interfered with.

The left lateral pain may occur indirectly as a radiation from the stomach, especially in gastroptosis and gastrectasia; finally, I have also discovered this pain to be due to radiation from the uterus and its appendages, particularly in cases of extensive laceration of the left side of the cervix with their sequels, and diseases of the left ovary.

Considering the mode of innervation of the stomach and intestine, it need not be surprising that the symptoms of disease of either organ are so largely blended. The numerous nerve plexuses of the entire intestinal tract, the fibres of the vagus, of the splanchnics, and of the various sympathetic ganglionic plexuses are so intimately interwoven that whenever disease affects one of the organs the other is necessarily implicated.

Very often, probably, the intestine, when it is disturbed in its functions in any of its segments, reacts upon the stomach. Anything, from simple constipation to hæmorrhoidal conditions, may be the cause of sensations relegated to the stomach or really having their seat therein—sensations such as fullness, nausea, or burning, pressing, and dull pain. With the expulsion of a tapeworm we get rid of a whole host of annoying complaints. In chronic constipation resulting from the most varied causes, relief of the trouble removes the sensations which have radiated to the stomach and partly have directly reacted upon that organ. In proportion as we overcome the circulatory disturbances and possibly remove the ptomaines, we relieve the nervous apparatus of the affected intestine and do away with the radiated sensations.

Turning now to the colicky pains occurring acutely in the abdomen, we shall have to consider first in the differential diagnosis rheumatism of the abdominal muscles. Pain is felt both on touch and on pressure, but the paroxysmal character of colic is absent, and it moderates under rest and relaxation of the abdominal walls.

We might also suspect lumbo-abdominal neuralgia; but in this affection the sensitiveness on pressure is present in only a single intercostal space from the vertebra forward and at least at definite points; the pain, moreover, is concentrated superficially in the skin of the abdomen, and radiates toward the anus and the genitals.

In the distinction from hyperæsthesia of the abdominal walls we must remember that the latter condition occurs in persons whose entire nervous system is in a state of increased irritability—that is, mainly in neurasthenic and hysterical subjects. The superficial seat of the painful sensation is to a certain extent pathognomonic. The morbid picture becomes more complicated when hyperæsthesia of the abdomen is combined with enteralgia in hysterical patients. When in such cases the pains occur even while the patient is not touched; when they increase spontaneously; when reflex symptoms such as vesical tenesmus appear, the condition is likely to be mistaken for peritonitis. The pain in peritonitis, however, is not diminished but increased by pressure, aside from the meteorism and fever. In biliary and renal colic and in gastralgia the pain will become localized after a short time, being felt most intensely about the organ to which it is due.

The greatest importance in our present consideration may be attached to ileus. In this condition the pain is the most constant symptom. At first it is the result of the injury to which the incarcerated intestinal segment is exposed, later on it is probably intensified by the increased peristalsis. Besides, the abnormal tension of the intestinal wall and the concomitant peritoneal irritation keep up the painful sensation. In the beginning of the disease the pain is often not increased by pressure and sometimes even diminished; when peritonitis sets in the slightest touch intensifies the pain. Rosenheim lays particular stress upon the initial pain in intestinal occlusion—that is, upon the pain first felt at the affected point.

Attention will also have to be paid for the purpose of diagnostic localization to the initial pain in the case of the painful sensations felt in the ileo-cæcal region in consequence of inflammatory affections around the cæcum and the vermiform appendix. This pain, which, as is well known, presents a dull, pressing, or stinging character, with exacerbations in violent attacks, is often difficult to locate correctly owing to its pronounced radiation into the hypogastric region, backward toward the kidneys, and particularly into the region of the liver. With the occurrence of an extensive circumscribed peritonitis and irritation of the entire peritonæum the pain becomes diffuse, and may be as violent on the left side as on the right.

Although in most cases the location of the pain and its occurrence in paroxysms, aside from the course of the disease, enable us at once to make the diagnosis of typhlitis, still there are a number of affections presenting sufficient similarity to the one here under discussion to render the differentiation difficult. It is true that the first points coming in question are the history, the course of the disease, any possible symptoms of stenosis, and the position of the tumor; but the pain, its character, and its location may become factors in the diagnosis.

In gallstone and hepatic colic the radiation of the pain toward the angle of the scapula is characteristic, while in appendicitis the direction is rather toward the umbilicus and downward; the painful point in the latter condition is exactly in the ileo-cæcal region, while in biliary stenosis the most sensitive point is at the margin of the liver.

Painful symptoms occurring suddenly in diseases of the uterine appendages may likewise simulate appendicitis, but they are at first located in the neighborhood of Poupart's ligament; when the pains are bilateral and more intense on the left side they indicate a genital affection. In such cases, too, the history, careful examination, the course, and the location of a tumor will above all guard us against a mistake of the kind.

Suddenly incarcerated and spontaneously reduced small herniæ may also simulate the symptoms of appendicitis, until some day the true cause is discovered. Moreover, we must bear in mind local peritonitic processes and adhesions, which for obvious reasons are apt to be located in this region. Violent paroxysms of pain may occur, particularly when constipation is present at the same time.

HYDROPHOBIA

FROM A DIAGNOSTIC POINT OF VIEW, WITH INSUFFICIENT HISTORY.

By D. G. SANOR, M. D.,
MALVERN, OHIO.

P. F., a young man about twenty years of age, while in the field at work, was suddenly taken ill on Friday afternoon, September 17, 1897. The writer, when called to treat the case on the Sunday following, found the boy suffering from a peculiar condition of the throat. He could not drink cold water without causing a contraction or spasm of the larynx. He was able to take a few small sups at a time, and then would experience a spasm of the muscles of deglutition. He had no fever and his pulse was normal. I called again on Monday and found his condition to be about the same, only that he seemed to be more restless, with pulse 80 and temperature 100° F. On Tuesday his condition was less favorable. He had had a bad night, was restless, with pulse 100, and temperature 101.5° F. The trouble in the throat remained unchanged. He was taking very little nourishment, and had pain all this time in the left arm and shoulder. On Wednesday morning at six o'clock, in response to an urgent call from the family, I saw the boy again, and found him growing rapidly worse, with pulse 120, and temperature 103° F. The condition of the throat remained the same. He was delirious and talked wildly, though he appeared to recognize the persons in the room occasionally. He had considerable mucus in his throat and was spitting up froth. The attending physician up to this time had not made a diagnosis of the disease, but thought that it might be an obscure form of typhoid fever. Nevertheless he felt very uncertain about it. At 7 A. M. he called in counsel, who, from the above symptoms, adjudged it to be a clear case of typhoid fever. At 9 P. M. the temperature was 105° F. and the pulse 150, or more. Death ensued at 3 A. M. on Thursday. All night long the patient kept frothing at the mouth, and just before death froth issued from both nose and mouth. After the death of the patient the writer felt satisfied that he had not been dealing with a case of typhoid fever, and forthwith made careful inquiry into the circumstances surrounding the young man. As a result, he discovered that the patient had in June, three months prior to his illness, been bitten by a strange dog. The family dog and this animal were fighting together on the porch, and when young F. undertook to part them the strange dog bit him through the thumb of the left hand. After this accident had happened he dreaded cold water, and always washed himself in warm water. When taken ill, he complained of severe pains throughout the left arm and shoulder.

Therapeutical Notes.

The Prevention of Hereditary Syphilis.—Pinard, cited in the *Revue mensuelle des maladies de l'enfance* for December, 1897, advises that mercury and potassium iodide be given to the mother during the whole course of gestation, according to one of the following formulas:

1. ℞	Mercury biniodide	3 grains;
	Potassium iodide............	150 "
	Syrup	9,000 "

M. A tablespoonful to be taken twice a day, after eating.

2. ℞	Mercury biniodide	3 grains;
	Potassium iodide...	150 "
	Mint water..................	600 "
	Distilled water..............	5,500 "

M. Dose the same.

Orange-flower Water as a Deodorizer of Iodoform.—The *Lyon médical* for November 28, 1897, says that, according to Constan, washing the hands with orange-flower water is sufficient to dispel the odor of iodoform after handling that substance.

The Treatment of Constipation due to Enteroptosis.—Boas, according to the *Gazette hebdomadaire de médecine et de chirurgie* for January 13th, considers the purgative and alkaline mineral waters objectionable. In place of them he employs enemata and prescribes various disinfectants and drugs calculated to strengthen the muscular action of the intestine. He regards strychnine and resorcin as particularly effective.

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THE CITY BOARD OF HEALTH AND THE BRUSH BILL.

We have not seen the text of the bill now before the legislature of the State of New York, commonly spoken of as the Brush bill, which seeks to place some limitations upon the power now exercised by the board of health of the city of New York and the work done by the board. We presume it is correct to say, however, in a general way, that the main objects of the bill are to restrain the board from requiring reports of cases of tuberculous disease and to restrict—some accounts say altogether abolish—its production of vaccine and antitoxines.

As concerns the matter of tuberculous disease, there is perhaps much to be said in favor of the course taken by the board, and great weight no doubt is to be attached to a recently published declaration by the medical officers of the leading life-insurance companies of the city to the effect that the board's efforts to diminish the ravages of consumption have already borne substantial fruit. However, there is assuredly much to be said on the other side. On the whole, we do not think the question has yet been sufficiently discussed to make a fair-minded person very warm in support of the tuberculosis element in the Brush bill or in opposition to it. It seems to us that it would be better for the present to refrain from legislation on that point.

As to the board's commercial products, if it is really true that the bill aims to prevent the board from making them at all, we may say frankly that we look upon such a provision as injudicious and injurious. We would not abate in any degree the board's authority to produce vaccine, diphtheria antitoxine, and other antitoxines for its own use, that is, for use among the poor. We believe firmly, however, that the board ought to be prevented from selling and giving away those products indiscriminately. It will not do to gloss over this infraction of the country's sense of justice by saying that the board produces articles that are purer and more potent than can be obtained from other sources. We do not believe it to be a fact, and, if we knew it to be a fact, we should think it of far lesser importance than the harm done by throttling private enterprise with the aid of public money. It is quite proper, nevertheless, that the board should be charged with authority to examine the products that are put on the New York market by others, and to suppress their sale whenever they are found to be defective. The most unworthy argument we have heard against interfering with the board's drug business is the statement that it has no competitors living in the State. Perhaps it would have them if their existence had not been rendered almost impossible by the board's action. But, be that as it may, are the people of the State of New York content to rest under the imputation that they care not how many persons belonging outside of their own borders are injured by their action? We hope and believe they are not. We believe that if the people fail to forbid the further prosecution of the drug business by the board, it will be because the true aspect of the matter has not been presented to them.

THE MOBILE QUARANTINE CONVENTION.

As an outcome of the recent yellow-fever epidemic in the southwest, there has been called a convention of persons interested in the study of quarantine and its relation to epidemic diseases in general and yellow fever especially. To quote from the call: "Lawyers, doctors, preachers, merchants, railroad officials, journalists, and representatives of the national and State governments will participate in the convention," which has been called by Dr. W. H. Sanders, State health officer of Alabama, chairman of the executive committee, and was to meet in Mobile on Wednesday of this week. The several governments of the South Atlantic and Gulf States have been requested to appoint five delegates each, and municipal governments are to have one delegate for each ten thousand inhabitants. Commercial bodies and railroad transportation systems are to be represented by one delegate each, and the membership will be further increased by members of State boards of health of the South Atlantic and Gulf States, who are recognized by virtue of their official positions. The Marine-Hospital Service has been invited to be represented by Surgeon-General Wyman or officers detailed by him. It is understood that Surgeon Carter and Surgeon White, of the Marine-Hospital Service, have been designated by their chief to be present. The convention is intended to be a popular one, as "doctors are requested to write their papers in untechnical language," and from the list of gentlemen invited to participate it is evident that the laity must have full representation. Thirty-three subjects were on the list for discussion, the principal paper on each subject to be read by some gentleman, and leaders in the discussion upon it were designated in the call.

The range of subjects is complete and deals with the practical aspects of both maritime and internal sanitation, covering the seaboard quarantines, problems of inter-State commerce, the disinfection of houses, freight, and baggage, the diagnosis of yellow fever, and the ever-present problem of a national bureau of public health. If it turns out, as we expect, that this convention was conducted upon a high plane, with patriotic purposes, and was designed by its promoters to reach conclusions for the public good, it should be of decided value in the problem of caring for the public health, which is uppermost in the minds of the profession at the present day.

Certain remarks were printed in the *Atlanta Constitution*, in its issue of January 24th, in which the charge was made that Health Officer Sanders, chairman of the executive committee, had been aiming to "pack" the convention with delegates opposed to a national quarantine system. In one letter the statement is made that Dr. Sanders "believes Governor Atkinson (of Georgia) to be a believer in States' rights," and that the governor "would appoint men of his opinion if he were in the State." The recipient of the letter was urged to see that the appointments were made in accordance with the suggestion. It was also stated in the letter that it was not desirable that the delegations should be composed of men who were wedded to the plan of national quarantine.

The *Birmingham Age* for January 29th also warns Dr. Sanders that it is not in the least becoming "to attempt to thwart the will of the people." "Ninety-nine per cent. of the people of Alabama," it says, "are in favor of a national quarantine system, because they believe it will be a system that will quarantine." Dr. Sanders, however, denies the allegations made against him, and it is hoped that what ought to be a valuable assembly of gentlemen able to discuss such questions will not be found to have resolved itself into a partisan body. We look for the report of the proceedings with interest.

MINOR PARAGRAPHS.

POTASSIUM OXALATE IN THE TREATMENT OF PHLEGMONOUS INFLAMMATION.

POTASSIUM OXALATE being known to have the property of preventing or retarding the tendency of organic fluids to coagulate, says the *Lancet* for December 11th, it occurred to Dr. G. Cavazzani, the principal surgeon of the Civil Hospital in Venice, to turn this property to account in the treatment of phlegmonous inflammation by injecting a one-per-cent. solution into the surrounding tissues so as to diminish the capillary engorgement and the plastic effusion. The first case in which this plan was tried was that of a woman who had a large phlegmonous swelling which extended from the middle of the upper arm to the hand. The acute stage was past and there were no collections of pus or patches of slough, but the arm was stiff, swollen, red, hot, and painful. Ten injections were given into the cellular tissue around the affected portion, thirty minims in all being thus introduced. The next morning the swelling, the redness, and the pain had perceptibly diminished; the injections were repeated every three or four days, and at the end of three weeks the patient was completely relieved. Dr. Cavazzani has since employed this treatment in several other cases of phlegmonous inflammation with good results. Among them were two cases of phlegmasia alba dolens which rapidly subsided under the influence of the same solution, thirty to forty-five minims being introduced in ten or twelve points. In one of the cases two repetitions were sufficient; in the other three. Another case was that of a man who had undergone an operation for inguinal hernia and in whom three days afterward inflammation of the cellular tissue of a somewhat alarming character began to appear. Thirty minims of the solution were injected in eight points situated beyond and around the circumference of the inflammation and the next day the inflammatory symptoms were found to have subsided. The only inconvenience resulting was a trifling amount of suppuration about two of the sutures of the wound. These injections, says the *Lancet*, appear to be quite harmless, as no sign of poisoning was observed in any of the cases. It adds that, whether the theory upon which Dr. Cavazzani based his employment of this salt is correct or not, the fact remains that the results obtained by him are very encouraging and the treatment seems to be worthy of a trial by other practitioners.

THE RUSH MEDICAL COLLEGE, OF CHICAGO.

THE recent affiliation of this well-known school with the University of Chicago is an additional step forward. One of the conditions, we understand, is that with the opening of the session of 1902 to 1903 the school will admit only men who have done the work of the freshman and sophomore years of a college course. The trustees of Rush do not expect that this advanced requirement will reduce the size of their classes, and in this their own experience and that of other medical schools justify them. The move is in every way to be commended.

OPIUM AS AN ANTIBACTERIAL AGENT.

DR. STREIT, of Aarau (*Centralblatt für Gynäkologie*, November 20, 1897), apropos of an article by Dr. Kugelmann, of Hanover, on the antibacterial properties of opium, mentions the good results obtained in the clinic of the late Professor Tarnier by the use of a decoction of poppy-heads as an antiseptic, especially in cases of purulent vaginal catarrh. He suggests that the antibacterial action of opium may explain the statements of dwellers in the tropics that, *cæteris paribus*, opium-smokers are less affected by malaria than other persons. He confirms Dr. Kugelmann's statements as to the value of opium in the treatment of acute parametritis.

THE TREATMENT OF SWELLED TESTICLE.

AT a recent meeting of the Paris Therapeutical Society (*Indépendance médicale*, January 26th) M. Du Castel expressed his surprise that the old antiphlogistic treatment of Broussais should ever now be heard of. Save in a few exceptional cases, he declared, it was entirely unnecessary to keep the patient in bed; the application of ice would allay the pain almost instantly, as Diday had shown. The speaker himself produced the required refrigeration by spraying with methyl chloride. Immediately after this spraying the patient could sling his testicles in a well-padded suspensory and go about his business. Methyl chloride was a little delicate to manage, he said, and might perhaps be replaced by ethyl chloride. M. Desnos added his testimony to that of M. Du Castel, but added that the method would not succeed in cases complicated with inflammation of the tunica vaginalis. In those cases puncture should be resorted to. If there was prostatitis, leeches should be applied to the perinæum.

CONGENITAL DEFECTS OF THE PECTORAL MUSCLES

Azam and Casteret (*Presse médicale*, 1897, No. 10; *Centralblatt für Chirurgie*, November 13, 1897) report two cases of these rare anomalies. One was that of a soldier, twenty-one years old, in whom the middle and lower thirds of the right pectoralis major were wanting. The upper third was strikingly hypertrophied; it arose from the first and second ribs and from the margin of the sternum. The pectoralis minor was represented only by a delicate muscular fasciculus springing from the third rib. The spinal column was not deformed, but the right half of the chest measured two centimetres more than the left. The deltoid and the latissimus dorsi were hypertrophied. All movements of the arm were well performed, and the man was a little quicker with that arm than with the left. The other case was that of an artilleryman with total absence of both pectorales on the left side. The axillary artery could be seen pulsating beneath the clavicle. The neighboring muscles were hypertrophied and notably stronger than those of the right side. All movements were possible. The clavicular portion of the deltoid served for adduction, which was rather weaker than on the normal side. This man, too, was nimbler on the abnormal side. In neither case was any ætiological or hereditary factor ascertained.

THE PHYSIOLOGICAL ACTION OF SODIUM PERCHLORATE.

Dr. R. A. Kerry and Dr. E. Rost (*Archiv für experimentelle Pathologie und Pharmakologie*, xxxix; *Fortschritte der Medicin*, January 15th) have been investigating this subject. They find that in the frog the salt gives rise to a complicated condition of poisoning the phenomena of which resemble in some respects those caused by veratrine, in others those provoked by caffeine, and in still others those brought about by nicotine. In rats, mice, and guinea-pigs typical tetanus is set up. The salt seems to have little effect upon rabbits, pigeons, or dogs.

THE PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Last November the monthly publication of the society's proceedings was begun. It is now announced that a number will be issued on the 15th of each month from November to June, inclusive, and that these issues will constitute the society's sole publications and scientific records. Volume xviii of the old series of *Transactions*, for the two years 1895 to 1897, will appear soon, and after that no bound volume will be issued. In its new form the publication is of very attractive appearance.

A SOMEWHAT SEVERE CRITICISM.

The *Journal de médecine de Paris* for January 16th states that Mr. Cornelius Vanderbilt has employed Dr. Jean Charcot as his physician for a cruise on his steam yacht, and remarks that it does not think M. Charcot does great honor to his father's name by accepting a place as physician and nurse that would be more suitable for an indigent student. We can not join in our contemporary's criticism.

A CONGENITAL OSTEOSARCOMA.

Courtin (*Gazette hebdomadaire de Bordeaux*, 1897, No. 26; *Centralblatt für Chirurgie*, December 4, 1897) records the case of a child born with an osteosarcoma of the clavicle. It extended from the middle of that bone to the sternum. Serum treatment was tried, but without effect. After a few weeks the tumor suddenly began to grow rapidly, and the child died at the age of forty-eight days.

A NEW GERMAN JOURNAL OF NEUROLOGY AND PSYCHIATRY.

We have received from the publisher, Mr. S. Karger, of Berlin, the prospectus of a new journal to be called the *Jahresbericht über die Leistungen und Fortschritte auf dem Gebiete der Neurologie und Psychiatrie*, to be edited by Dr. E. Flatau, Dr. L. Jacobsohn, and Dr. E. Mendel, of Berlin. From the pains that appear to have been taken to form a large staff of well-known men to take charge of the departments it is evident that the new journal will be an excellent one.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 8, 1898:

DISEASES.	Week ending Feb. 1.		Week ending Feb. 8.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	11	3	8	2
Scarlet fever	175	12	150	12
Cerebro-spinal meningitis	0	0	0	0
Measles	322	16	336	11
Diphtheria	152	25	148	23
Croup	2	0	13	7
Tuberculosis	201	108	163	113

The Willard Parker Hospital and Proposed Legislation concerning the Board of Health.—At a recent meeting of the medical board of the Willard Parker and Riverside Hospitals the following resolutions were adopted:

Whereas, senate bill No. 5, now before the senate committee on cities, contains radical changes in the methods now in operation, and involves material restriction in the character of the work now performed in the department of health; and

Whereas, The passage of said bill would interfere with the continued progress and successful administration of the department by prohibiting the production of vaccine virus, diphtheria antitoxine, and other antitoxines, by restricting scientific research by limiting the work in the prevention of infectious diseases, especially tuberculosis, diphtheria, the septic diseases, and tetanus, and by removing important safeguards intended for the prevention of diphtheria, small-pox, and tuberculosis; and

Whereas, The enactment of this bill would not in any respect tend to the improvement of the public health or be in the interest of the whole people of New York city; therefore be it

Resolved, That this board does hereby respectfully protest against the passage of senate bill No. 5.

Resolved, That these resolutions be spread upon the minutes of this board, and that copies be transmitted to the senate committee on cities, to the Health Board of the Health Department of the City of New York, and to the medical journals of this city.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, and cholera were received in the office of the supervising surgeon general during the week ending February 5, 1898:

Small-pox—United States.

Pinckard, Ala	Jan. 23	Small-pox reported.	
Selma, Ala.	Jan. 13.	1 case.	
Knoxville, Tenn.	Jan. 22.	1 "	
Calhoun, Va.	Feb. 1	Small-pox reported.	
Norton, Va.	Feb. 1	" "	

Small-pox—Foreign.

Prague, Bohemia	Dec. 26–Jan. 15	35 cases.	
Hong Kong, China	Dec. 11–18	4 "	3 deaths.
Cienfuegos, Cuba	Jan. 17–23		11 "
Sagua la Grande, Cuba	Jan. 15–22	47 "	7 "
Southampton, England	Jan. 9–15	1 case.	
Calcutta, India	Dec. 18–25		1 death.
Odessa, Russia	Jan. 1–15	15 cases,	4 deaths.
Moscow, Russia	Jan. 1–8	2 "	2 "
Warsaw, Russia	Dec. 24–Jan. 8	8 "	11 "

Cholera.

Bombay, India	Dec. 28–Jan. 4		4 deaths.
Calcutta, India	Dec. 18–25		10 "
Madras, India	Dec. 11–24		3 "

Yellow Fever.

Manzanillo, Cuba	Jan. 1–15		5 deaths.
Kingston, Jamaica	Jan. 15–22	1 case,	1 death.

The Medico-legal Society of Philadelphia.—A large number of physicians attended the regular quarterly meeting of the society, held at Wimley's Café, No. 1604 North Broad Street, on the evening of January 25th. The following officers were elected for the ensuing year: Dr. J. H. Dripps, president; Dr. E. B. Wheeler and Dr. A. M. Eaton, vice-presidents; Dr. G. M. D. Peltz, treasurer; and Dr. C. H. Clewell, secretary. The purification of the water supply received considerable attention, and a committee of seven was appointed to wait on the mayor. Dr. George Mays read a paper entitled Calomel *vs.* Antitoxine. A special meeting was called to discuss the hospital and dispensary abuse, which will convene on February 22d at the Columbia Club.

Examinations for Pension Surgeons.—The *International Medical Magazine* for January announces that on March 5th the United States Civil Service Commission will hold an examination in Washington and other places in the United States to fill the position of pension examining surgeon for vacancies in Bridgeport, Connecticut, Lynn, Massachusetts, Washington, Indiana, and Vicksburg, Mississippi.

The Late Dr. Thomas Hanlon Atkinson, of Jersey City.—At a special meeting of the committee on necrology, of the District Medical Society, County of Hudson, State of New Jersey, held February 6th, the following resolutions were unanimously adopted, and will be reported at the next regular meeting of the society:

Whereas, Death has removed from our midst our beloved colleague, Dr. Thomas Hanlon Atkinson, a man who has merited the respect of his associates and the confidence of a large circle of friends and patrons in Jersey City; be it therefore

Resolved, That in the loss of our late member, Dr. Thomas Hanlon Atkinson, the society mourns one of its most genial fellows, and the medical fraternity loses one whose future gave great promise;

Resolved, That we hereby extend to the family of our lamented brother our heartfelt sympathy;

Resolved, That these resolutions be spread in full upon our minutes, that they be published in the *Jersey City Evening Journal*, the *Medical Record*, the *New York Medical Journal*, and the *Medical News*, and that a copy be sent to the family of Dr. Thomas Hanlon Atkinson.

[Signed.]
J. M. Rector, M. D., *President*,
Henry Spence, M. D., *Secretary*,
H. H. Brinkerhoff, M. D., *Treasurer*,
J. A. Exton, M. D., *Reporter*,
Committee.

The Society of the Alumni of the City (Charity) Hospital.—At the eighth annual banquet, which was held at the Hotel Savoy on Wednesday evening, the 2d inst., the following officers were announced for the new year: President, Dr. Walter B. Johnson; vice-president, Dr. W. L. Stowell; secretary, Dr. Charles J. Proben; treasurer, Dr. H. H. Schroeder; and editor, Dr. Arthur T. Muzzy.

The Philadelphia County Medical Society.—At the last meeting, on Wednesday, February 9th, the programme included the following papers: The president's address, by Dr. James Tyson; The Beneficial Effect of Methylene Blue in Acute Gonorrhœa, as Exemplified in One Hundred and Five Cases, with Special Reference to the Germicidal Action of the Remedy on the Gonococcus, by Dr. Orville Horwitz; Danger of Wounding the Heart in Tapping the Peritonæum, by Dr. Hobart A. Hare; and A Case of Hypopion Kerato iritis occurring during an Attack of Typhoid Fever, by Dr. Clarence A. Veasey.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Medicine, on Tuesday evening, the 8th inst., Dr. Helene Kuhlmann was to read a paper on The Clinical Examination of Blood, and Dr. Nelson Russell was to read one on Sputum.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 5th inst., the following papers were to be read: Observation on the Treatment of Some Cases of Neurasthenia, by Dr. J. K. Bauduy; and Hysterectomy for Cancer of the Uterus, with a Report of a Case, by Dr. Spencer Graves.

The Richmond Academy of Medicine and Surgery.—At the last regular meeting, on Tuesday evening, the 8th inst., the subject for discussion was to be a report of the serum committee.

The Boston Medical Society.—At the meeting of Tuesday, February 8, 1898, a paper entitled When to Operate on a Lacerated Perinæum was to be read by Dr. J. S. Lockheart, and to be discussed by Dr. A. P. Clarke, Dr. Charles F. Parker, Dr. R. K. Noyes, Dr. N. M. Goodman, and Dr. M. Gerstein.

Physicians' Right of Way.—The *Journal of the American Medical Association* says that an ordinance has been passed by the common council and is now in effect in Louisville, regulating the rights of way and permits therefor. Section 1 concerns the right of way of ambulances over any other conveyance, etc., while engaged in going for or conveying any sick and wounded. Section 2 concerns the wearing of physician's badge and the right of way granted such badge. Section 3 has to do with the issuance of permits to practise medicine. Section 4 requires the health officers to obtain a certified list of physicians licensed by the State board of health and practising in Louisville, etc. Section 5 prohibits greater delay than five minutes to ambulances, etc., at railroad crossings, etc. Section 6 provides penalties for offenses against the ordinance.

The St. Louis Laryngological and Otological Society.—The *Laryngoscope* states that this society has been organized, and the following officers have been elected for the season of 1898: President, Dr. J. C. Mulhall; vice-president, Dr. J. B. Shapleigh; secretary, Dr. F. M. Rumbold;

treasurer, Dr. A. S. Barnes, Jr.; executive committee, Dr. M. A. Goldstein, Dr. F. C. Ewing, and Dr. J. A. J. James.

The Obstetrical Bag.—Very frequently indeed, says the *Cleveland Medical Journal*, do we hear of disputes about the invention of surgical instruments, and priority in the discovery of anæsthesia has become, as we all know, a worn-out story; but it has been left for two well-known English obstetricians to dispute over the "invention" of a bag. The future historian will no doubt be puzzled to decide who first conceived the brilliant idea of carrying his instruments in a bag and calling it an "obstetrical bag." When this important question is settled, we shall be glad to know to whom the first use of sponges should be credited.

The Maryland State Board of Health.—Governor Lowndes, says the *Maryland Medical Journal*, has appointed Dr. William H. Welch, of the Johns Hopkins University, on the State board of health. Dr. Welch at first refused, but was afterward persuaded to accept. Dr. John Morris succeeds himself, and Mr. Frederick H. Smith fills out the unexpired term of Mr. Henry Brauns, resigned.

The Philadelphia Municipal Hospital.—The director of public safety, the chief of the bureau of city property, the chief of the bacteriological division of the health bureau, the secretary of the board of health, the physician in charge, and a member of the staff of the Municipal Hospital recently went to Boston, says the *Philadelphia Medical Journal*, to visit the new hospital for contagious diseases of that city—a hospital of the most approved construction and arrangement. Their visit was prompted by the desire to secure ideas which might prove of utility when the contemplated improvements to the Municipal Hospital of Philadelphia come to be inaugurated.

The Missouri State Board of Health.—According to the *Medical Standard*, the board has elected Dr. E. L. Standlee, president, Dr. O. A. Williams, vice-president, and Dr. Paul Paquin, secretary. The board announced free examinations in the following classes of cases: (1) The microscopical and bacteriological analysis of throat specimens for the diagnosis of diphtheria. (2) The microscopical and bacteriological analysis of blood for the diagnosis of typhoid fever. (3) The microscopical and bacteriological diagnosis of consumption by analysis of the sputum of suspects, particularly among school teachers and school children and their parents. (4) The bacteriological investigation of well waters and other waters suspected of being capable of causing or having caused typhoid fever, as far as possible or useful, at a distance, to make such investigations.

Medical Knights.—The *British Medical Journal* announces that Dr. Batty Tuke and Dr. John Struthers were knighted on January 25th.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 30 to February 5, 1898:*

BROOKE, BENJAMIN, First Lieutenant and Assistant Surgeon, is relieved from temporary duty at the Army and Navy General Hospital, Hot Springs, Arkansas, to take effect April 6th, and will then repair to this city and report in person on April 12th to the president of the examining board for examination as to his fitness for promotion, and, upon the completion of his examination, will report in person to the adjutant general of the army for orders.

KOERPER, EGON A., Major and Surgeon, is relieved from duty at Fort Crook, Nebraska, to take effect upon the expiration of his present leave of absence, and will then report in person to the commanding general, Department of the Platte, for duty as Chief Surgeon of that department.

KULP, JOHN S., First Lieutenant and Assistant Surgeon, will report in person on February 22d to the president of the examining board appointed to meet at Vancouver Barracks, Washington, for examination as to his fitness for promotion.

WINNE, CHARLES K., Major and Surgeon. The leave of absence granted him on surgeon's certificate of disability is extended two months on surgeon's certificate of disability.

A board of officers to consist of ALDEN, CHARLES H., Colonel and Assistant Surgeon General; MERRILL, JAMES C., Major and Surgeon; and DE SHON, GEORGE D., Captain and Assistant Surgeon, is appointed to meet at the Army Medical Museum Building in Washington, on Tuesday, April 12th, at 10 o'clock A. M., or at such time thereafter as practicable, for the examination of such officers of the Medical Department as may be ordered before it to determine their fitness for promotion.

A board of officers to consist of WOLVERTON, WILLIAM D., Lieutenant Colonel and Deputy Surgeon General; HOFF, JOHN VAN, Major and Surgeon; and KEEFER, FRANK R., Captain and Assistant Surgeon, is appointed to meet at Vancouver Barracks, Washington, on Tuesday, February 22d, at 10 o'clock A. M., or at such time thereafter as practicable, for the examination of such officers of the Medical Department as may be ordered before it to determine their fitness for promotion.

The following named officers will report in person to the president of the examining board appointed to meet at the Army Medical Museum Building in Washington for examination as to their fitness for promotion, and, upon completion of their examinations, will return to their proper stations: STARK, ALEXANDER N., First Lieutenant and Assistant Surgeon; LYNCH, CHARLES, First Lieutenant and Assistant Surgeon; MUNSON, EDWARD L., First Lieutenant and Assistant Surgeon; FLAGG, CHARLES E. B., First Lieutenant and Assistant Surgeon; KENNEDY, JAMES M., First Lieutenant and Assistant Surgeon; GODFREY, GUY C. M., First Lieutenant and Assistant Surgeon; and LEWIS, WILLIAM F., First Lieutenant and Assistant Surgeon.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Two Weeks ending February 5, 1898:*

AYERS, J. G., Medical Inspector. Ordered to assume charge of hospital on Widow's Island in addition to his present duties.

HAAS, H. H., Assistant Surgeon. Ordered to the Vermont.

HUBBARD, G. C., Assistant Surgeon. Ordered home and granted three months' sick leave.

RUSSELL, A. C. H., Surgeon. Ordered to duty in the Bureau of Medicine and Surgery.

STONE, L. H., Passed Assistant Surgeon. Ordered to be examined for retirement and to await orders.

WARD, B. R., Passed Assistant Surgeon. Ordered to proceed home and await orders upon completion of temporary duty in New York.

Society Meetings for the Coming Week:

MONDAY, *February 14th:* New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private—anniversary); New York Ophthalmological Society (private); Lenox Medical and Surgical Society (private); Harlem Medical Association of the City of New York; Gynæcological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society (private).

TUESDAY, *February 15th:* New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Chemung (quarterly), Kings, Livingston (quarterly), and Westchester (White Plains), N. Y.; Baltimore Academy of Medicine.

WEDNESDAY, *February 16th:* Medico-legal Society, New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark).

THURSDAY, *February 17th:* New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private); City Hospital Medical Society of St. Louis.

FRIDAY, *February 18th:* New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynæcological Society.

Births, Marriages, and Deaths.

Married.

CHANDLER — GRAY. — In Shreveport, Louisiana, on Wednesday, February 2d, Dr. G. C. Chandler and Miss H. Gray, daughter of Dr. Robert A. Gray.

McINTOSH—MORRIS.—In Anchor, Illinois, on Thursday, February 3d, Dr. William McIntosh, of Meridian, Mississippi, and Miss Edith Pearl Morris.

STEVENSON—SNYDER.—In Rutland, Vermont, on Tuesday, January 25th, Dr. John A. Stevenson and Miss Sara Snyder.

Died.

ATKINSON.—In Jersey City, on Friday, February 4th, Dr. Thomas Hanlon Atkinson, in the twenty-sixth year of his age.

CARLL.—In Boston, on Friday, February 4th, Dr. Agnes Holmes Carll.

HELM.—In Sing Sing, N. Y., on Saturday, February 5th, Dr. William H. Helm, aged fifty-eight years.

STUB.—In Dayton, Ohio, on Tuesday, February 1st, Dr. Arnold Stub, of Brooklyn, in the fifty-sixth year of his age.

VIMONT.—In Chicago, on Sunday, February 6th, John William, infant son of Dr. Charles W. Vimont.

Letters to the Editor.

TEMPERATURE IN COMA FROM AN OVERLOADED STOMACH.

119 EAST ONE-HUNDRED-AND-TWENTY-EIGHTH STREET,
NEW YORK, *February 6, 1898.*

To the Editor of the New York Medical Journal:

SIR: The paper entitled Difficulties in Determining the Causes of Coma, by Dr. J. T. Eskridge, printed in the *Journal* for January 29th and February 5th, is one of the most useful contributions to medical literature that I have read in a long time. I am sure that a careful perusal of it will prove truly valuable to the physician in his practice. There is one statement, though, in the paper, to which I must take exception. The author says (page 139): "Coma from teething or from an overloaded stomach is rarely attended by a temperature above 103° F., although in one case of this kind which came under my observation the body heat in the rectum was 104°. The pulse and respirations are usually less rapid than in the exanthemata. The face is usually flushed." Not long ago I was hurriedly called in to see a child "dying" in convulsions. The patient was a little girl four years old, whose mother had brought her down to the city the same day and left her in the care of an overindulgent grandmother. The child had packed itself full of cake, candy, potatoes, tomatoes, pork chops, and rice pudding. The convulsions were general and violent, and the coma was absolute. The temperature in the rectum was *105.2° F.* A strong emetic, a purgative, and an intestinal irrigation removed a bucketful of undigested material, and the temperature soon fell to 103°. Next morning the temperature was 100° and the child felt quite well, though very weak. No disease developed.

This case is not by any means unique. On the contrary, temperatures of from 104° to 105° F. due exclusively to an overloaded stomach or to teething (as is afterward proved by the course of the case) are rather frequent in my practice. I have a boy patient to whom I have been called regularly every two or three months for the last two years. Every time that boy succeeds in getting hold of five or ten cents he is sure to get into a comatose state. He is very fond of the fruit of *Arachis hypogæa*, or peanuts. He will buy five or ten cents' worth of roasted peanuts, go into a corner, and eat them all; as he is an habitual glutton, this extra ballast soon throws him into convulsions and coma. The temperature is always between 104° and 105.5° F. The first time I was called in the temperature was 106° F., and I of course gave a very guarded prognosis. But now those temperatures do not cause me much anxiety.

The other portions of the statement quoted—as to the pulse and respirations being usually less rapid than in the exanthemata and as to the face being flushed (in the case reported above the face is always intensely so, almost to the point of bursting)—are perfectly correct.

WILLIAM J. ROBINSON, M. D.

THE PREPARATION OF NUCLEIN.

150 LOWRY ARCADE, ST. PAUL, MINN., *February 1, 1898.*

To the Editor of the New York Medical Journal:

SIR: I have read with much interest the paper upon The Use of Arsenite of Copper and Nuclein Solution to Abort Typhoid Fever. I am not aware that the exact nature and mode of preparation of the nuclein used by Dr. Aulde has ever been published, and would ask the doctor to state the origin and the exact method of preparation, for the benefit of your readers.

CHARLES LYMAN GREENE, M. D.

[We think the nuclein employed by Dr. Aulde has been described in print, but we can not now say where and when.]

Proceedings of Societies.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of November 3, 1897.

The President, Dr. ROBERT J. CARLISLE, in the Chair.

(*Concluded from page 195.*)

Primary Sarcoma of the Heart.—Dr. LAMBERT also reported this case. (See page 210.)

Dr. A. ALEXANDER SMITH said that he had seen this patient only once, and remembered very distinctly the peculiar changes in his color resulting from changes in posture. From this it had seemed easy to make a diagnosis of pressure on the veins by a tumor. Primary sarcoma of the heart was exceedingly rare, and there was nothing about the physical signs indicative of such involvement of the heart. At the time he had seen the case, he had thought the diagnosis lay between tumor in the mediastinum and an intrapericardial aneurysmal tumor. He believed that the condition was so rare that the diagnosis could only be made positively on the autopsy table.

Dr. Egbert le Fevre said that the clinical picture had emphasized the impossibility of making a correct and positive diagnosis from the signs and symptoms. The effect on the pulse had been out of all proportion to the growth in the heart. He had seen the patient after the occurrence of pleural effusion in both cavities, and it had been impossible to outline the heart to determine the extent of the dilatation. The peculiar œdema, the cyanosis, and the breathing in the recumbent posture all had served to indicate merely that there was some interference with the return circulation. He had hazarded the opinion that there might be a tumor pressing upon one of the large veins. As the pulmonary symptoms and those referable to the aorta had not warranted the diagnosis of aneurysmal tumor there, he had been led to suspect a growth in the mediastinum.

The speaker referred incidentally to the fact that in the clinical history of the case Dr. Lambert had spoken of the "curved line of Garland." This was wrong, as Ellis had first called attention to this line, and Garland had subsequently demonstrated it by injections into the pleural cavity. Until recent years it had been known as "the S-line of Ellis."

Dr. Lambert said that there was nothing absolutely to point to the diagnosis of a growth in the heart. After a careful study of the case he had expressed the opinion that the tumor involved the vena azygos at the point at which it emptied into the vena cava. So far as he had been able to ascertain, this was only the tenth case of the kind on record.

The Operative Treatment of Hæmorrhoids.—Dr. Parker Syms read a paper on this subject. (See page 217.)

Dr. S. Alexander said that he agreed to most of the views expressed in the paper as to the choice of operation. His custom had been to use the Allingham operation more frequently than the operation with clamp and cautery. He had never performed the Whitehead operation, and did not approve of it. His reason for preferring the Allingham operation was its simplicity; if the anal sphincter was thoroughly dilated at the time of the operation the objections to the operation were entirely done away with. So far as his own experience had gone, he had never seen any serious hæmorrhage and had not observed any pain following this operation, and the ultimate results had been fully as good as those from the clamp and cautery if not better. It was necessary, however, to fully stretch the sphincter so as to paralyze it for about a week after the operation; in his opinion, this was one of the secrets of success with Allingham's operation. Another important point was to thoroughly cut through the mucous membrane at the base of each hæmorrhoidal tumor before tying it off. The Allingham operation was very easy to perform. If each ligature was left long, by the time the operation had been completed a number of ligatures would be hanging from the margin of the anus; when these were pulled they opened up the rectum and allowed of a very complete examination of the bowel. His objections to the clamp-and-cautery operation were that there was more danger of hæmorrhage, and complete recovery was longer delayed. Possibly the reason that he had encountered hæmorrhage frequently in performing the clamp operation was that he had made it a practice to cut close to the clamp. Another objection to the operation was that the healing of the ulcers caused by the cautery took longer than where the ligature had been used. Still another objection to the clamp-and-cautery operation was a point that had been alluded to by the reader of the paper as an advantage—*i. e.*, that by the judicious use of the clamp and cautery one was able to overcome the tendency to prolapse which occurred in a large number of bad cases of internal hæmorrhoids. But when there was not this tendency to prolapse, there seemed to be some danger of producing more or less permanent stricture of that portion of the bowel.

Dr. C. E. Quimby said that years ago he had done hæmorrhoidal operations, for the most part by Allingham's method. An inspection of Kelsey's hæmorrhoidal clamp led him to suggest that the action of the instrument ought to be more satisfactory if the blades were so constructed as to remain parallel to each other, instead of, as at present, the lower blade cutting clear in before the upper part had got hold of the mass at all.

Dr. Syms said that he had never thought of making any modification of the instrument, because as now made he had found it perfectly satisfactory. In using the clamp, it was his custom to apply the blades to the tumors in an inverted position, the operation field being outside of the rectum. In this way the firmest part of the grasp of the clamp was at the base of the hæmorrhoidal tumor, or at the point where the vessels entered. The clamp did not cut the tissues; it simply compressed them firmly.

Dr. George W. Crary said that his objection to the clamp-and-cautery operation was that in hæmorrhoids having a broad base the clamp picked up the hæmorrhoids and also a large portion of the mucous membrane, and on the removal of the clamp the edges of the mucous membrane separated and left a large ulcer, which was slow to heal. The operation answered well for pedunculated piles.

Dr. John F. Erdmann said that he strongly favored the Allingham operation. It could be done just as quickly as the clamp operation, and convalescence was as rapid as after the clamp and cautery, if not more rapid. He never kept these patients more than two or three days in bed after either operation. The pain following the use of the ligature did not seem to him any severer than after the use of the clamp and cautery. His reasons for not using the latter operation more frequently were the same as given by Dr. Crary, and also the risk of hæmorrhage. Even with unusual care in the use of the clamp and cautery, he had found spurting vessels on removing the clamp, and these had been secured with difficulty on account of their tendency to recede in the rectal field. He had recently done the Allingham operation thoroughly and quickly under cocaine and eucaine anæsthesia.

Dr. Robert T. Morris said that at the present time we should choose between the Allingham and the clamp-and-cautery operation, and this choice would depend very much upon personal skill. He had seen some bad results from both methods. In operations for hæmorrhoids three principal things required attention—viz.: (1) The removal of the pile; (2) the control of the hæmorrhage; and (3) the prevention of infection. This last element was the factor which caused the most trouble. Unless one was very skillful in leaving a very small slough, the danger of infection from the slough was not unimportant—he had seen infection occur in this way—though in the hands of a careful and watchful surgeon the danger was comparatively small. Personally, he preferred the Allingham operation at present. It cured the patient with very little danger of infection or hæmorrhage. One very important point had not been discussed by the authors in connection with the Whitehead operation. In that operation the linea pectinata was removed, and with it a special sensory apparatus of the anus. Stroud, in a paper published in the *Annals of Surgery* a few months ago, had given a lucid account of the anatomy of the anus and had called attention to this special-sense apparatus whose function was to warn the person of the approach of fæces. When this apparatus was destroyed the consequences were likely to be unpleasant.

Dr. Syms said that he regarded the Allingham operation as a thoroughly good one, but believed that the clamp operation possessed certain advantages over it. In the first place, the wound made by the cautery was an absolutely aseptic one in the beginning, and the experience of those who had employed the method extensively showed that infection very seldom occurred. He had never seen any constitutional disturbance in any case after the first twenty-four hours of reaction. It was his custom not to operate exclusively by this method; in some instances he used one method on one part of the rectum, and the other operation on another part of the rectum in the same patient. He had not found in the case of tumors having a broad base that there had been unusually large ulcers and tedious healing after the clamp-and-cautery operation; indeed, he was of the opinion that this was more likely to occur with the other method. If care was taken to make the ablation in the line of the long axis of the rectum, if contraction took place the tendency would not be to narrow the lumen of the gut. While the loss of blood in the Allingham operation was slight, it was an important matter for these patients, because they were usually thoroughly depleted by frequent losses of blood from the hæmorrhoidal vessels. When cocaine first came into use he had employed it about the rectum, but as sudden deaths had been reported from the use of only three to five minims of a four-per-cent. solution of cocaine, he had abandoned cocaine in these cases. He had known of serious though not fatal cocaine poisoning in connection with rectal surgery. He had found the clamp-and-cautery operation exceedingly satisfactory, and it should be performed without loss of blood, either during the operation or after the removal of the clamps. The clamps should be applied deliberately and closed firmly, and then the cutting off of the superabundant mass should be done with great care. If it was done close to the clamp, there would be absolutely no control over the bleeding. A sufficient stump should be left, and this stump should be thoroughly seared, but not removed by the cautery.

Dr. S. Alexander asked if Dr. Erdmann had found it possible to thoroughly dilate the sphincter under cocaine anæsthesia.

Dr. Erdmann replied that he had never thought that it was necessary to absolutely paralyze the sphincter. He had used the method in cases in which there had been only two or three hæmorrhoids. Eucaine acted much better than cocaine, and so far as he had been able to ascertain there was no danger from it.

Dr. E. L. Williamson said that two months before he had assisted in an operation for anal fissure in which the sphincter had been thoroughly dilated under cocaine anæsthesia. The anæsthesia had been complete, although the patient was a nervous women. A further operation could have been done at that time if it had been required.

New Inventions, etc.

A NEW VACCINATION SHIELD.

By A. Seibert, M. D.,

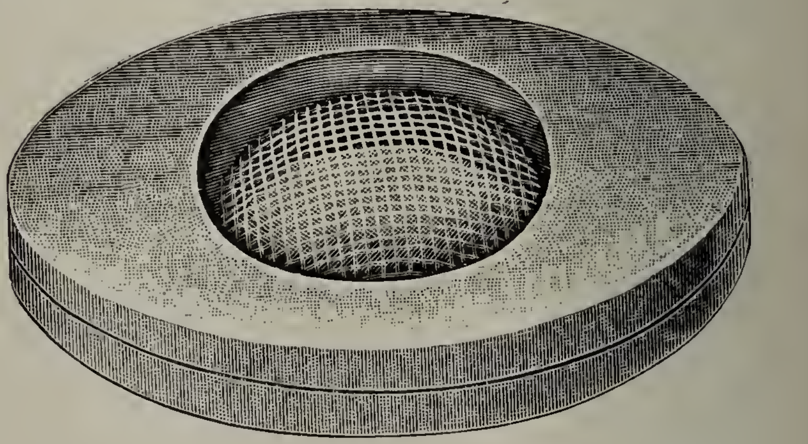
PROFESSOR OF PÆDIATRICS, NEW YORK POLYCLINIC.

If the arm of a child is scarified in vaccinating by two or three sharp needles, sterilized by heating over a flame, and after the skin has been cleaned by soap-water and absorbent cotton, the vaccine will produce the desired pock without accompanying pathogenic infection. But the duty of the vaccinator does not stop here. Aseptic vaccination does not preclude later infection of the open wound. The serum oozing from and covering the space denuded of its natural surface coagulates usually within an hour if not interfered with, and so forms a barrier for bacteria. To prevent the removal of this serous protector by scratching or other means liable to occur at any time, vaccination shields have been in use with more or less success.

The shields used heretofore consist either of a wire mask, tied by tape to the arm of the child, or of felt discs with an opening in the centre and glued to the skin by mucilage. If the wire mask is tied firmly to the child's arm above and below the pock, the circulation must be interfered with, and discomfort through pressure will result, and if tied loosely the slightest movement of the child may displace the shield, reopen the wound by the edges of the mask, and so cause infection.

The gummed perforated discs of felt remain in place if properly adjusted, but the unprotected large opening admits the possibility of scratching and other traumatisms.

In this shield the virtues of the above-mentioned appliances have been retained, while the faults have been eliminated. By placing one felt disc with its gummed surface upon the upper felt surface of another and adjusting a convex wire screen with its edge between the two, so as to cover the open centre, full protection against ordinary injury and secondary infection is obtained.



In lively children two strips of narrow adhesive plaster, placed over the ends of the shield and halfway around the arm, will aid materially in retaining the shield in its place. Mr. William M. Eisen, No. 413 Eighth Avenue, has placed this device on the market under the name of the "Manhattan vaccination shield."

Directions for use: Remove the face cloth, soften the gummed surface by heat, and apply the shield directly after vaccination, as the wound serum will dry undisturbed under the screen.

114 East Fifty-seventh Street.

Miscellany.

The Senate Committee on Public Health and National Quarantine and Various Bills to Establish a Department of Public Health.—From Mr. Vest's report, recently printed, we extract the following. Speaking of two of the bills, the report says:

"It will be seen that both these bills, although differing in details, agree in taking away the jurisdiction over quarantine matters from the Marine-Hospital Service and vesting it in a department of health. The committee believes that a change so radical is both impolitic and dangerous.

"The Southern States lying upon the Atlantic and Gulf of Mexico are constantly exposed to danger from yellow fever, and the sudden transition from the present quarantine system to a new and untried experiment would leave these States for a time without protection. If a department of health is to be established, it should be done gradually without the sudden transition which would paralyze the efforts of the Marine-Hospital Service and substitute a new and necessarily crude system.

"The Marine-Hospital Service has been virulently assailed and charged with tyranny and gross negligence, but no convincing evidence of these statements being true has been placed before the committee. While it is undeniable that the yellow fever, which is the only contagious disease from foreign countries to be really dreaded, entered the United States last summer at a point on the Gulf Coast near Ship Island, it has not been satisfactorily shown that this occurred by reason of the carelessness or neglect of the officers on duty at the Ship Island quarantine station. The fever first appeared at Ocean Springs, a few miles from the station, but it is unjust to conclude, on the ground of propinquity alone, that it came through Ship Island. Hundreds of refugees from Havana, the most dangerous yellow-fever port in the world, have been coming to our shores in all sorts of vessels and landing at obscure and out-of-the-way places, where it was impossible, on account of our extended seaboard, to intercept them.

"Besides this, it is well known that since the present troubles began in Cuba smuggling has been extensively carried on, and those engaged in it have, of course, carefully avoided the larger ports of the United States, where quarantine regulations are enforced. These observations are made, not with any idea of taking part in the acrimonious controversy between the State boards of health in the Southern States and the Marine-Hospital Service, but because justice demands that our conclusions should be frankly stated as to matters involving not only large pecuniary interests, but also health and life.

"In our opinion, it is wise and necessary to retain the present system of quarantine under the management of the Marine-Hospital Service, with its hospitals, quarantine stations, improved apparatus for the investigation of disease germs, and corps of officers, twenty-five per cent. of whom have experience in the prevention and treatment of infectious diseases, and especially of yellow fever. It may be found expedient hereafter to expand the service into that of a department, but to do so now would mean the useless expenditure of money and the destruction of the only systematic antagonism to the invasion of contagious disease.

"While we believe that the quarantine jurisdiction of the Marine-Hospital Service should be retained, we are clearly of opinion that its powers should be enlarged and made more distinct and uniform. No timidity nor adherence to technicalities should prevent the adoption of any measures which are necessary to exclude contagious diseases from our shores. The experience of past years, and especially of the last summer, demonstrate the absolute and immediate necessity of so amending existing laws as to enlarge and concentrate the powers of the Marine-Hospital Service, so that the present sporadic and conflicting condition, in which there is constant friction and collision between Federal and State officials, shall be changed, and the exclusive, ultimate control be given to one authority.

"The evils of the present system have become intolerable. During the season just ended hundreds of lives were lost by reason of defects in existing law, the commerce of the entire South was paralyzed, and the rights of citizens disregarded by lawless methods. Cities and towns were quarantined against rival communities, producing bitter controversy, and railway trains passing from one State to another were prohibited from proceeding, the passengers in many cases being forcibly taken from the cars and carried to improvised fever camps, where they were exposed to hardship and contagion. The amount of damage inflicted upon the country by the shotgun quarantine can never be accurately stated, but it certainly amounted to many millions, and the possibility of its existence is a stigma upon our institutions and civilization."

The New York Electro-therapeutic Clinic, Laboratory, and Dispensary.—In a report recently issued the director, Dr. Margaret A. Cleaves, says:

"A period of two years and two months has elapsed since the organization of the New York Electro-therapeutic Clinic, Laboratory, and Dispensary. The work of the first year has already been reported, but, owing to the fact that hereafter the year's work will begin the 1st of October and end the 1st of June, this report will contain a summary of the work from the beginning. By doing this the way is made clear for issuing the report hereafter at the close of each year's work.

"Experience has demonstrated that the months from the 1st of October to the 1st of June are those in which physicians in the greatest numbers avail themselves of post-graduate instruction; hence the change in the teaching year.

"The work of the clinic has gone on in a most satisfactory manner, despite the fact that from the middle of June to the 1st of November, 1896, it was closed because of the illness of the physician in charge.

"In the summary of the work of the clinic since its organization we find justification for its existence, and from it we draw inspiration for its future.

"During the twenty-six months of its life it has been in actual operation for twenty months, with, exclusive of holidays, 258 clinic days. The number of patients has ranged from four (the minimum in attendance upon the first clinic, April 8, 1895) to twenty-eight; while the total attendance for the entire period has been 4,014, with an average attendance of 15.5. No effort has been made to exceed this average, for, as pointed out in our previous report, time is a very necessary element in electro-therapeutic work, and our best results are always to be obtained by a careful study of the smaller number of cases with a thorough mastery of the minutest detail of technique. The physical properties and physiological action of the different manifestations of electrical energy and their therapeutic application are carefully considered in connection with every case. It is only by such careful work that electro-therapeutics will secure and maintain its proper place in medicine as a rational and scientific measure."

The Management of Patients before and after Laparotomy.—The following is an abstract furnished by the author, Dr. Frederick Holme Wiggin, of a paper read before the Hartford Medical Society and the New York Medico-surgical Society and published in the *Medical Record* for January 29th:

In the early days of the decade now drawing to a close it was generally believed that abdominal operations could be safely performed outside of hospitals especially constructed for such work, but it is now known that, although personal effort and responsibility are increased, it is perfectly safe to do such operations in ordinary houses. It is, therefore, not improbable that in the near future many of these patients will prefer to be operated upon at home, and this means that the general practitioner will have a more important part to play in the management of these cases than has been customary in the past.

Preparation of the Patient.—Where circumstances will permit, a week should be devoted to preparing the patient for the operation. This time can be profitably spent in accustoming the patient to the new environment, in examining the heart and lungs and the condition of the secretory and excretory organs, and in thoroughly evacuating the bowels. Early in the week several small doses of calomel and sodium bicarbonate should be given daily, for three days, followed each morning with a saline. On each of the three succeeding mornings a large enema should be administered, consisting of three or four quarts of saline solution. In order that these large enemata shall be properly given, the physician should superintend this part of the work, taking care to see that a fountain syringe is used, that it is not more than three feet above the patient, that the solution has a temperature of 100° F., and that the flow is checked from time to time as the patient complains of colic or of intestinal distention. Six hours before the operation the rectum should be given a final washing out with the same solution. The diet during this week should be light and easily digestible, and the patient should be encouraged to drink freely of liquids and to rest as much as possible. Every day a hot bath (110° F.) should be given for ten minutes, and in the daily ablutions special attention should be paid to the navel and the pubic region. The nervous system may be quieted by administering, on alternate nights, a mild hypnotic, such as a combination of sulphonal and chloralamide, and arranging its adminstration so that a dose is given on the last night before the operation. The skin of the abdomen is prepared for the surgeon by applying a soap poultice over the proposed site of the incision, to remain on for two hours, and then substituting a compress moistened with weak bichloride-of-mercury solution. If the patient is a woman, the time selected for the operation should, if possible, be a few day after the cessation of the menstrual flow, and the vagina should be thoroughly douched, first with a solution of boric acid and afterward with a half-per-cent. formalin solution, or a 1-to-4,000 solution of mercury bichloride.

It is better to operate in the early morning than in the afternoon. If the former has been selected, the patient should be given a peptonized milk punch at eleven o'clock the previous evening. The administration of an ounce of liquid peptonoids about two hours before giving the anæsthetic stimulates the heart and diminishes the subsequent nausea and vomiting. If the operation is to be done in the afternoon, the peptonized milk punch may be given in the early morning, and the peptonoids at 11 A. M. The patient's body and limbs should be properly protected with clothing during the operation.

Preparation of the Room.—The furniture of the room should be removed and the windows left open for two or three hours. Then the woodwork should be wiped off with bichloride-of-mercury solution, 1 to 1,000, and the floor liberally sprinkled with the same solution. The operating table should be about twenty inches wide and thirty inches high. The following articles should be provided and, after being cleansed and washed with bichloride-of-mercury solution, should be placed in the room: Several small tables or stands, a few wooden-bottomed chairs, several pitchers and meat platters, four or five basins, and a fish-kettle for the instruments. In addition, there should be several gallons of both hot and cold water, sterilized by boiling, and at least a dozen towels, sterilized by steaming. For emergency cases it is safer to cover the floor with a sheet wet with bichloride-of-mercury solution than to stir up the dust of the room by more elaborate preparations.

The Operation.—The anæsthetic should be administered before bringing the patient into the operating room, and if ether is to be employed, it is better to give subcutaneously, half an hour before, an eighth of a grain of morphine and a hundredth of a grain of atropine. A closed ether inhaler allows of the easy and rapid induction of anæsthesia and the maintenance of this state with a minimum of the anæsthetic. The skin is finally prepared for the operation by a scrubbing with hot water and tincture of green soap, followed by irrigation with sterilized water, ether, and alcohol. If the patient is a woman, it should be made an invariable rule to irrigate the vagina and swab it out with gauze. The author strongly favors making the incision through the right or left rectus muscle, instead of through the linea alba. He also believes that leaving a considerable quantity of hot saline solution in the general peritoneal cavity, after irrigation, acts as a stimulant and at the same time tends to prevent the formation of intestinal adhesions. In closing the abdominal wound the deep sutures should be placed at least an inch apart and loosely tied. The edges of the skin may be accurately adjusted by a buried suture of silkworm gut. If during the operation the pulse-rate increases twenty or thirty beats, a subcutaneous injection of a twelfth of a grain of strychnine and a hundredth of a grain of nitroglycerin should be administered and repeated as required. If in spite of this treatment the pulse exceeds 150, one or two pints of warm saline solution should be introduced into the median cephalic vein at once.

After-treatment.—The patient should be put to bed with warm blankets and bottles and, soon after consciousness has been restored, should receive *one* dose of a hundredth of a grain of atropine and an eighth of a grain of morphine. It is not necessary to keep the patient in one posture for the first few days. For the first twelve or eighteen hours nothing should be given by the mouth but small quantities of warm water. If there is much gastric irritation, it may be relieved by the external application of chloroform to the epigastrium. After this period, a drachm of liquid peptonoids may be given every twenty minutes, for four doses, and then small quantities of peptonized milk may be cautiously added, gradually increasing the quantity and lengthening the interval. Once in twenty-four hours an interval of six hours should be allowed in order to rest the stomach. If there is much intestinal distention, this can be relieved by the introduction of a rectal tube or the nozzle of a syringe or by massage along the course of the colon. Usually no cathartic need be administered until the third or fourth day, and then small doses of calomel and sodium bicarbonate should be given, followed by two or more Seidlitz powders. If, as is usually the case, the temperature is normal by the evening of the fourth day, the patient may be allowed to resume ordinary diet rapidly. The dressings should be changed on the fifth day and, if the sutures are cutting through, they should be removed and the wound supported with strips of adhesive plaster.

Complications.—The complications which may be met with occur in the following order: Concealed hæmorrhage, peritonitis, intestinal paresis, intestinal obstruction, and stitch abscesses.

As soon as concealed hæmorrhage is diagnosticated, an intravenous saline injection should be administered, but it is useless to operate unless the patient shows a reasonable response to stimulants. The onset of peritonitis is usually announced by a steady increase in the frequency of the pulse, and this should be the signal for the prompt evacuation of the bowels with calomel and salines and with enemata of glycerin and water or of a saturated solution of sulphate of magnesium. When there is intestinal paresis the stomach should be washed out and salines freely administered. As soon as intestinal obstruction is recognized the abdomen should be reopened and the constriction relieved. Stitch abscesses usually announce themselves by the fourth or fifth day.

In estimating the patient's condition, the facial expression is of the greatest value.

Clinical Tests of New Remedies.—Under this heading, in the January number of the *Laryngoscope*, Dr. Seth Scott Bishop gives his experience with nosophene. He has used it in chronic suppurative inflammation of the middle ear with most satisfactory results. The treatment caused no pain, and the drying, cicatrizing effects of the drug were soon noticeable. After four weeks of irregular treatment the ear remained entirely free from discharge and the powder was then allowed to stay for a week, when it was gently removed. The hearing became normal and there was no return of the discharge.

The following case, says the author, may be taken as fairly illustrative: The patient was a woman with a history of a sore throat extending over eight months. The throat had been ulcerated for six weeks and the velum palati had been perforated for a week. Examination revealed a very large hole in the soft palate, and a surrounding area of reddened and moderately œdematous mucous membrane. There was a copious purulent discharge pouring over the lower border of the perforation. The symptoms were somewhat confusing in making a diagnosis between cancer and syphilis. Tuberculosis was easily excluded, but there was much more œdema, pain, and difficulty of deglutition than usually characterizes syphilis of the pharynx. Absolutely no history of a specific nature could be elicited. However, the author's impression of the syphilitic nature of the case was so strong that he placed the patient on a mixed treatment of mercury and potassium iodide.

The posterior nares were involved in the ulcerative process, and the nose, as well as the throat, was cleansed at each treatment with such antiseptic detergents, for example, as pasteurine and formolide, which, he says, are effective and agreeable washes. These two qualities, says Dr. Bishop, are not overlooked by the progressive and successful specialist. It is just as easy to use pleasant sprays that are efficient as to use those that disgust the patient. After this thoroughly cleansing douche, with fifteen pounds pressure, so as to effectually wash away all discharges and expose the membrane itself to the action of the curative remedy, he dusted nosophene by means of a small powder blower, with the long treatment tube, so as to cover all the diseased surface of the throat and nose.

The ulcerating surface became cleaner day by day; healthy granulations formed; the angry blush and the œdema of the surrounding tissues subsided; the difficulty of swallowing ceased; the general health improved, and in seven weeks the perforation was nearly closed with healthy tissue. The treatment was interrupted during the author's absence of six weeks from the city, and upon his return adhesions were seen to have formed between the posterior faucial pillars and the lateral and posterior walls of the pharynx. He proposed severing these adhesions, but, as no inconvenience was suffered, the patient declined these offices. The perforation had completely closed, and the patient was soon discharged from treatment, except as to the continuance of the internal medication under the care of her family physician.

Dr. Bishop states that he has used nosophene in mucous patches with the most satisfactory results, and in no case have any untoward effects followed its use. It appears to stimulate the bases of ulcers to a healthy granulation formation, and its freedom from odor and irritating qualities is an important point in its favor. He has also used it in cases following an operation for deflected sæptum nasi, and in galvano-cauterization of hypertrophied turbinals, under eucaïne anæsthesia. Healing, he says, is rapid and unattended by the profuse hydrorrhœa often seen to follow these procedures. The astringency of the drug probably accounts for the diminished exudation of serum and decreased secretion of mucus. The patient passes through the ordeal with less discomfort than when the former are employed.

After such operations Dr. Bishop substitutes nosophene gauze for iodoform gauze, so as to produce the continuous effect of nosophene, especially in the cutting and sawing cases that are attended and followed by hæmorrhage. The same advantage, he says, is obtained from the employment of the gauze that there is in the use of the powder over the iodoform preparations, and in nose and throat work such a remedy as this possesses, he thinks, decided merits.

Pulmonary Embolism following Mercurial Injections.—According to Epstein (*Annales de dermatologie et de syphiligraphie*, December, 1897; *Lyon médical*, January 16, 1898), the treatment of syphilis by injections of insoluble mercurial preparations presents, in a large number of cases, an incontestable superiority, and the practice should not be renounced unless the complications on the part of the lungs produced by embolism are frequent and grave.

From 1892 to 1896, under the direction of Dr. Jadassohn, in Breslau, 227 men and 681 women were treated with injections of insoluble mercurial preparations. In all, 8,292 injections were made, ordinarily with thymol, mercury acetate, or mercury salicylate in liquid paraffin. Among these patients embolisms were ascertained as follows: In 1,752 injections in men; in 1,090 injections in women; and in 1,185 injections in persons of both sexes.

No deaths occurred in the cases of embolism; furthermore, all the patients were cured in a short time. The author does not, then, concur in the opinion lately expressed several times in favor of rejecting injections of insoluble mercurial salts solely because they may accidentally give rise to pulmonary embolism. He is, in this respect, in complete accord with the majority not only of German physicians, but of other physicians.

According to Möller, the following rules should be carried out in order to avoid an injection into a vein and consequent pulmonary embolism: At first, the mass to be injected should be deposited in the gluteal region and as deep as possible, so that the injection is made above the muscles or in the superficial part of the glutæus. The upper gluteal region, above the horizontal line which touches the upper part of the great trochanter, presents the least danger from embolism. Möller seizes a thick fold of the skin and of the subcutaneous tissue parallel with the median line and introduces the cannula (which should be at least three centimetres and a half long) for its entire length, following an oblique line in the direction of the fold of the skin and deep into the skin and the subcutaneous tissue in order that the injection may stop short of the muscle, or at least touch only the superficial part of it.

The International Medical Annual.—The publishers, Messrs. E. B. Treat & Co., announce that the volume dated 1898, the sixteenth year of the publication, will soon be issued.

The Effects Produced by a Virulent Culture of Typhoid Bacillus Injected between Two Ligatures in the Small Intestine of a Dog.—In the *Lyon médical for* January 16th M. Lépine and M. Lyonnet state that they showed, in a previous communication, that considerable amounts (three hundred cubic centimetres) of a virulent culture of the typhoid bacillus could be introduced into the stomach or directly into the intestine of dogs without producing any lesion or any pathological symptom; while if the culture was introduced into a coil, according to Thiry's procedure, lesions of the mucous membrane resulted, with an increase in the size of the spleen and of the mesenteric ganglia and general symptoms, such as fever, emaciation, and agglutinant power of the serum.

The authors applied two circular and very tight ligatures at a distance of forty centimetres apart on the small intestine of a dog, isolating in this way a segment of the intestine into which they injected a twentieth of a cubic centimetre of a virulent culture of the typhoid bacillus. The ligatures, having been very tight, quickly cut through into the intestinal cavity, in such a way that the intestine was re-established in its continuity at the end of a rather short time, which, to judge by the return of the stools, did not exceed three days. The repair of the intestinal wall was facilitated by some points of suture implicating exclusively the serous coat near the ligatures. There was then only temporary retention of the culture, and not permanent retention, as in the experiment with the coil by Thiry.

The dog had no symptom of obstruction, and at the end of three days it was allowed to eat; there had been no fever.

The serum, which was examined on different days from the beginning of the operation, always gave a very evident agglutination exceeding one per cent.

The dog was killed on the twentieth day after the operation; no lesion was found in the mucous membrane, and there was no increase in the size of the spleen, but an enormous tumefaction was found in the mesenteric ganglia.

The authors think it is important that, in spite of the absence of intestinal lesions, there was a general infection, as was shown by the agglutinant power of the serum and the hypertrophy of the ganglia.

They think that this experiment demonstrates that in some way the morbid elements which constitute typhoid infection may be dissociated experimentally. Instead of causing, as in Thiry's experiments, lesions of the mucous membrane, an increase in the size of the spleen and of the mesenteric ganglia, diarrhœa, emaciation, and the agglutinant power of the serum, they obtained only hypertrophy of the ganglia and the agglutinant power.

This experiment, the authors think, confirms the reality of those abnormal forms of typhoid fever which are met with rather frequently, in which the cardinal symptoms are absent and of which a positive diagnosis would be impossible if we did not possess the very valuable sign of the agglutinant reaction.

Silver Nitrate in the Treatment of Typhoid Fever.—In the *Normandie médicale* for January 15th M. Arnaudet states that for several years he has systematically employed silver nitrate in typhoid fever as an intestinal antiseptic, and he considers the results very encouraging. During the past twelve months he has employed it in thirty-nine cases with only three deaths. Aside from the complications noted in these three cases, the author scarcely observed any but an abscess of the ear in a child five years old and serious bronchial symptoms in a young man. In fact, there were very few complications either early or remote. Ordinarily, and in spite of the grave aspect in the beginning, the progress of the fever was regular and simplified.

One of the first and most striking effects of the salt, says M. Arnaudet, was the suppression of the diarrhœa, and consequently there was little or no distention.

The disappearance of these two symptoms is, the author thinks, very important, for it indicates a better condition of the intestine; it indicates also that the infection has been reduced to a minimum and that the complications involving the peritonæum, the lungs, or the brain are less to be feared, as well as the high temperatures which endanger the life of the patient.

M. Arnaudet states that he has rarely observed sordes of the mouth or dryness of the nostrils; on the contrary, the nasal fossæ and the throat remained free and the tongue moist.

The temperature, after having reached or exceeded

104° F. before this treatment was begun, fell to 102.1° and then to 100.2°.

Generally, the duration of the disease did not exceed three weeks; four times it ran its course in from five to six weeks, twice in alcoholic subjects and twice after relapses. In one case the defervescence was complete before the fifteenth day.

Regarding convalescence, in the majority of cases it was very decided, and the return to health was almost without transition, especially in those who had been able to take a milk diet.

From these facts the author formulates the following clinical impressions: 1. In the average cases recovery was obtained with a remarkable facility from the use of the silver nitrate. 2. In the majority of the grave cases the disease was modified and simplified and reduced to the average type, and recovery obtained. 3. In the very grave cases, even with hæmophilia, the patients were more likely to recover by this method than by any other in the author's knowledge.

The mode of treatment is as follows: In the beginning a saline purgative is administered, and immediately afterward the silver nitrate. From two to three grains are given during the twenty-four hours to adults, in pills containing three twentieths of a grain, one or two of which are to be given every two hours. As these pills decompose rather quickly, only a quantity sufficient for two or three days should be prescribed at a time.

Even during convalescence and until recovery is complete, the author gives first six then three pills a day. In addition to this treatment, all the patients took fifteen grains of quinine sulphate until the temperature fell, which, according to the author, was a useful but insufficient measure, as the results he obtained with the systematic employment of silver nitrate proved. Coffee and milk in abundance were given. M. Arnaudet considers the silver nitrate a very inoffensive antiseptic, and states that to its antimicrobian properties may be added another, and perhaps very important one, particularly in typhoid fever, that is, the elective action that it exercises on the lower part of the small intestine, which is the principal seat of the lesions, and also on the large intestine.

M. Arnaudet states that this drug has given him good results in many other affections besides typhoid fever, notably in the majority of the diseases of the gastro-intestinal tract and its annexa.

Bacteriological Researches regarding Acute Articular Rheumatism.—M. Pierre Alchalme, in the *Annales de l'Institut Pasteur* for November 1, 1897 (*Presse médicale*, January 20th), states that he described for the first time in 1891 an anaerobic microbe found in a state of purity at the autopsy of a man who had died from cerebral rheumatism. Since then, he says, M. Thiroloix has detected in the blood of living rheumatic subjects a micro-organism which presents the same morphological and biological characters.

Up to the present time this micro-organism has been sought for in nine cases, and these cases are positive. The micro-organism has been isolated twice at autopsies; four times it has been found in the blood of a vein in the arm in a state of purity; in two other cases it has been found associated with micrococci.

In order to make a culture of the blood aseptically drawn from the bend of the arm, tubes of pure milk or milk mixed with bouillon were sown; rigorous provision was made against their contamination, and they were carried to a drying stove. Eight or ten days are occasionally necessary for a sufficient development of the micro-organism.

The bacillus thus obtained had the form of a large stick resembling in appearance the *Bacillus anthracis;* it varied in length according to the medium in which it was developed. It was easily tinted by the usual coloring matters and remained colored after Gram's reaction.

It is exclusively anaerobic, says M. Alchalme, and liquid media are better suited to its development than solids. Bouillon, especially bouillon of horse meat, is an excellent soil, provided it is deprived of air. At first, bubbles of gas are seen to be set free; then a uniform disturbance is produced, and afterward a whitish deposit. Sown in the tubes of milk, this bacillus causes coagulation in from twelve to fifteen hours, and frees gas to such a degree that the tube may burst.

M. Alchalme states that it is difficult to obtain cultures on solid media; the colonies are not recognizable sometimes except under the microscope. This mode of culture has, however, the advantage of giving to the bacillus a more regular form than it has on liquid media.

An interesting peculiarity is that sodium salicylate hinders the development of the cultures, and the media in which the bacilli vegetate rapidly become acid and unable to preserve their vitality; this may be prolonged by the addition of calcium carbonate.

From an experimental point of view, the guinea-pig is the animal in which the reaction occurs. When it is inoculated in the thigh it dies in from twenty to thirty-six hours, presenting locally an enormous gelatiniform œdema, or a sac filled with a reddish serosity, exposing the necrosed muscles. The pericardium contains an abundant serous exudation and occasionally false membranes. The pleura presents the same alterations if the inoculation is practised in a spot near the thorax. In these humors the specific bacillus is found. The injection of the œdematous serosity from one guinea-pig to another causes death in ten hours from subacute septicæmia.

Rats are less susceptible than guinea-pigs, dogs always remain refractory, and rabbits require copious inoculations. By injecting the serosity of the guinea-pig directly into the rabbit without passing it through cultures, M. Thiroloix has been able to cause in the latter animal a heart disease which resembles the cardiac complications of rheumatism in human subjects.

The microbian associations are frequent in an advanced stage of the disease; it seems that the bacilli open the tract to secondary infections.

Conditions Necessary to Union by First Intention in Laparotomy Wounds.—Dr. H. Fitsch, in the *Deutsche medicinische Wochenschrift* for October 21, 1897 (*Presse médicale*, January 15th), remarks that if union by first intention is desired it is necessary to carry out the following rules: 1. The preparation of the patient should be made in a most careful manner. A bath should be given and should last at least half an hour, and a kilogramme of sodium carbonate should be added to the water. Before the bath the abdomen and the genitals should be carefully soaped. Twelve hours before the operation a permanent compress saturated in a non-irritating antiseptic solution, designed to soften the epithelial layer, should be applied to the abdomen. Immediately before the operation the skin should be scrubbed with potash soap, and after that is washed off the skin should be scraped with a razor; this being done, lavage should again be practised with an alcoholic solution of soap, and then with a one-to-one-thousand solution of corrosive sublimate. 2. The lips of the wound should never be separated with the fingers, but an abdominal speculum with smooth sides should be used. The fingers injure and tear the adipose lobules, and in this way favor gangrene of the injured parts. 3. Before suturing, all the strips and fragments of the cellular adipose tissue should be cut with Cooper's scissors. In case of a septic operation, when pus is discharged over the edges of the incision, after suturing the peritonæum, the superficial layer of the two lips of the wound should be completely excised. 4. The suture should always be made with a double thread passed from within outward, for otherwise the needle, passing through the skin, may bring into the subcutaneous tissue staphylococci which are found deep in the glands of the skin and can not be reached by antiseptics.

Two Cases of Death without Discoverable Cause.—In the February number of the *University Medical Magazine* Dr. M. Howard Fussell calls attention to two cases of unusual interest. During life, he says, the patients gave no symptoms of anything that could not be accounted for on the grounds of ordinary indigestion, yet they both progressively grew weaker, and finally died without a diagnosis being made.

The following case is one of them: The patient was a married woman, thirty-two years old. The author attended her in two confinements, and both labors were without any unusual occurrences. Ten years ago the patient was a normal, healthy, robust woman. About five years ago she was seized with excruciating headache, unaccompanied by any physical sign or any other symptom except vomiting. Every sort of treatment was applied without any relief, when the patient suddenly became better. The attending circumstances were so peculiar that the author was convinced that this was an attack of hysteria. Her health continued fair until about eighteen months ago, when he was called to see her for "faint attacks." She would get attacks of extreme vertigo and faintness, accompanied by nausea. He examined her carefully, and found that her urine was normal; the blood contained sixty per cent. of hæmoglobin. The heart was extremely weak, but regular and otherwise normal. The woman very rapidly lost flesh, being unable to eat, and had much flatulence and nausea.

On May 29, 1897, Dr. Fussell made the following notes: The skin was extremely dark, especially on the face and hands; the pulse was feeble; there were no murmurs in the heart or vessels; the lungs and the abdomen were normal; the blood was entirely normal. The patient complained of a peculiar gnawing in the stomach.

Up to this time, the author states, he had looked upon the case as one of an hysterical character without any special interest. The symptoms were so unusual and would become suddenly so much better that he felt sure that there was no serious lesion. At this time he made an examination, and found all the organs absolutely normal, except that the heart's action was very weak. The color of the hands and face was almost that of bronze, and they looked as if sunburned.

On June 24th the patient had an attack of weakness accompanied by vomiting, and on June 29th she felt much better and looked well; the pulse was fairly strong; there was some belching. She went to the seashore, and when the author returned from his vacation in September he found her in bed, vomiting, and with a scarcely perceptible pulse. The blood was examined and found to contain ninety per cent. of hæmoglobin; the red and white cells were both normal. The urine was repeatedly examined and found normal. On September 23d the pulse was still feeble, and the patient fainted whenever she got up. On October 1st a sudden attack of vomiting and diarrhœa occurred without apparent cause, accompanied by an extremely faint condition; the patient was almost pulseless. A hypodermic injection of strychnine was administered, after which she rallied somewhat, but the next afternoon she died suddenly.

The post-mortem examination revealed the following conditions: Both lungs were crepitant throughout; there was no fluid in the pericardial sac. The heart was extremely small; the left cavity was empty, and the right cavity was filled with partially coagulated blood. The entire aorta was small, barely admitting the index finger. The heart weighed scarcely a quarter of a pound. There was apparently no disease of the muscle, and the valves were all normal. There was no apparent disease of the peritonæum. The lungs, the liver, and the spleen were normal. The right and left kidneys and the right and left suprarenal capsules, also the pancreas, were normal. The mesenteric glands were somewhat enlarged. The vermiform appendix was normal in position and appearance. The skull-cap was unusually thick, about a quarter of an inch. There was nothing abnormal about the longitudinal sinus, and there was no abnormal bulging of the meninges. The dura mater was normal. There was no abnormal appearance about the exterior part of the brain, and nothing abnormal was found on section.

Both these patients, says Dr. Fussell, during life gave symptoms of gastric disturbance without any physical signs. In the first case there was an absence of hydrochloric acid. In the second case the stomach contents were unfortunately not examined.

The post-mortem examinations in both cases were barren of results, except in the first case, in which there was so much necrosis of the stomach wall that Dr. Fussell thought it certainly must have taken place after death. Both the patients had extremely small hearts; the smallest, he says, that he has ever seen. This condition, he thinks, while it might, perhaps, have hastened death, can not be said in any sense to have caused death. Both patients had progressive loss of flesh, and both were hysterical subjects. In both cases the mesenteric glands were enlarged, thus pointing, the author says, to the intestinal tract as a possible source of infection.

Dr. Fussell states that no cause of death is apparent to him, unless the first case was one of starvation due to the absolute inability to take food on account of the pain, which could not be accounted for at the post-mortem examination, unless it arose in the large sigmoid flexure.

In the second case, he thinks it might possibly have been due to self-intoxication, for the appetite was nearly always good. Dr. Fussell presents these cases for the purpose of provoking discussion as to the cause.

The Use of the Obstetric Forceps.—In an article on this subject in the February number of the *New Orleans*

Medical and Surgical Journal Dr. P. Michinard lays down the following rules: There must not be at either inlet, excavation, or outlet an insurmountable obstacle. The membranes must be ruptured, and the os must be fully dilated or dilatable. Under urgent circumstances the cervix may be split to admit the blades. The bladder and bowels should be emptied. The position of the presenting part must be ascertained.

It should be borne in mind, says the author, that the forceps is not a compressor. The pressure exerted against the blade by the maternal parts generally produces sufficient compression against the head to prevent slipping, if the blades have been properly applied. Compression of the head will destroy that elasticity and convexity which are indispensable for the prevention of slipping of the blades; therefore, he says, whether the fœtus is alive or dead, nothing is gained by strong compression.

As much as possible, continues Dr. Michinard, traction should be made with the forearms and not with the entire body. If the blades should slip when the latter force is used, accidents are likely to occur. Until the floor of the pelvis has been reached by the head, the direction of traction should be directly downward and backward; when this has been reached the traction should be forward, and then directly upward and forward. The movements are greatly facilitated by the use of forceps having the Tarnier system of axis traction. With this instrument, Dr. Michinard says, traction is made with the traction rod, the handles not being touched at all. They are merely indicators of the direction in which to draw. The traction rod should be held parallel to the handles and about a quarter of an inch away—not jammed up against them.

Dr. Michinard advocates the employment of the forceps, for, he says, with a correct appreciation of its use and application, and a proper acquaintance with all that appertains to obstetrics, and with a perfect aseptic and antiseptic technics, there is no reason why its assistance should not be availed of with the greatest security to mother and child.

Some Peculiar Features in a Case of Hypnotism.—In the *Australasian Medical Gazette* for December 20th Mr. George de Clive-Lowe relates the following case: The subject was a young lady twenty years old, of a distinctly neurotic temperament. She was desirous of being subjected to hypnotic influence. Her request was acceded to, and after only a very few suggestions a deep hypnotic sleep was produced.

At this stage it was suggested to her that she should count up to a certain number, and then stop. As soon as the suggestion was made the most violent tremors resulted; the muscles of the arms especially were affected, and these limbs were thrown out in the wildest manner. The head was violently jerked backward, and the body was thrown into a state of opisthotonus. This conditon lasted for about thirty seconds, when the patient became quiet and performed the act required of her. But whenever any other act was suggested the same phenomena occurred. She was in the hypnotic condition for a period not exceeding twelve minutes, and when she was commanded to awake she opened her eyes, stared around her, and gave way to a violent fit of hysterical crying. This lasted only a very few minutes, and was succeeded by a state of hilarity, which also passed off quickly.

The author says it has been his experience that patients who present these peculiar convulsive tremors under hypnotic influence are not fit subjects for hypnotism. They always possess very active brains and almost invariably have some functional derangement of the heart. It proved to be so in the foregoing case. Therefore, he continues, in cases in which a patient, on being subjected to hypnotic influence, shows these convulsive tremors, all hypnotic suggestion should immediately cease, and the subject should be wakened and advised to rest in the recumbent posture; a small amount of some gentle stimulant should also be administered.

The New Haven Medical Association.—We learn from the February number of the *Yale Medical Journal* that the annual business meeting was held on Wednesday evening, January 5th. The meeting was well attended, fifty-three members being present. Considerable business of interest only to the members was transacted, followed by the annual reports of the several committees. The prudential committee recommended in their report that one hundred and fifty dollars be appropriated for the new library which the medical society has recently established, and also fifty dollars to be added to the building fund. The finance committee subsequently reported that this building fund now amounted to three thousand dollars. The report of the secretary and treasurer followed. The attendance of the year showed a gain of fifty per cent. over that of the previous year, and the membership had been increased by nine new names. The association now has eighty-two members. It is now to hold meetings on the first and third Wednesday of each month, instead of only once a month, as formerly, and the annual dues have been changed to five dollars per annum.

Dr. J. H. Townsend was re-elected president; Dr. F. H. Whittemore and Dr. M. C. O'Connor were chosen vice-presidents; and Dr. R. S. Goodwin was elected secretary and treasurer.

The Hartford Medical Society.—The annual meeting, says the *Yale Medical Journal* for February, was held on Monday evening, January 3d. Officers were elected for 1898 as follows: President, Dr. G. Pierrepont Davis; vice-president, Dr. Horace S. Fuller; secretary, Dr. Gideon C. Segur; treasurer, Dr. Charles D. Alton; executive committee, Dr. Homer L. Law, Dr. Thomas F. Kane, and Dr. Edward K. Root, with the secretary and treasurer *ex officio;* dispensary committee, Dr. Henry P. Stearns, Dr. Melancthon Storrs, Dr. Joseph E. Root, Dr. John O'Flaherty, Dr. Edward J. McKnight, and Dr. Edward K. Root; censors, Dr. Phineas H. Ingalls, Dr. Frederick T. Simpson, and Dr. Charles E. Taft; trustees, Dr. Gurdon W. Russell, Dr. Melancthon Storrs, and Dr. George R. Shepherd. The building committee reported that the Hunt Memorial Building would probably be ready for dedication on the first day of February, and that President Gilman, of Johns Hopkins University, had consented to deliver the address at that time.

Medical Courts of Honor.—The proposed bill for the establishment of medical courts of honor in Prussia, says the Berlin correspondent of the *British Medical Journal,* has twice been rejected by the medical chamber as insufficient, and its passage at present is doubtful. The chief points of disagreement turn on the facts of the extension of the court jurisdiction to the private and non-professional life of the profession. But, as the court is to be established to decide in cases of "offense against the honor of the profession," it is difficult to see, says the writer, how such decisions could be reached without taking into account, at times, the private and nonprofessional actions of the physician. This the chamber is unwilling to allow, and so the matter rests, with no prospect of a solution.

A Chinese Edition of Gray's Anatomy.—Dr. H. T. Whitney, president of the Medical Missionary Association of China, is engaged in the laborious task of translating Gray's *Anatomy* into Chinese. The undertaking has impressed Dr. Whitney's former associates in the Northern Ohio District Medical Society as one of such magnitude that they have come to his assistance by passing a special resolution congratulating him and wishing him Godspeed in his work.—*Boston Medical and Surgical Journal.*

The Hospital Saturday and Sunday Association of New York has issued the following circular, dated February 1st: "A severe sleet storm on 'Hospital Sunday' resulted in an unusually small church attendance, and, consequently, with a few exceptions, in relatively small collections for the hospitals, the falling off in many instances being more than one half as compared with former years. But for the untoward weather there is reason to believe that the church collections would have been the largest in the history of the association, since in a few instances where the collection was deferred to the following Sunday, there was an increase in the offering over any previous year.

"Under these circumstances, and in view of the great needs of the associated hospitals to carry on their free work in behalf of the stricken poor, the executive committee feels warranted in making a special appeal to the public for contributions, and looks confidently to a generous response.

"As a return for your favor, please bear in mind that an application for free hospital service in behalf of an employee, or other sick person, made to Mr. Frederick F. Cook, the general agent of the association, United Charities Building, will receive prompt attention.

"Kindly remit to our general treasurer, Mr. Charles Lanier, No. 17 Nassau Street."

The Use of Buckskin in the Treatment of Eczema.—Darezac (*Journal de médecine de Bordeaux*) recommends the use of a small piece of buckskin placed between the ointment and the rest of the dressing. He ascribes its good effects to its flexibility, which permits of its accurate molding to the diseased area; to the fact that it does not absorb much of the ointment and thus keeps the parts moist; and finally to the fact that it does not adhere to the newly formed cutis, as linen does, or produce cutaneous irritation, as rubber does.

The New Louisiana State Board of Health was appointed by Governor Foster on January 24th, says the *New Orleans Medical and Surgical Journal* for February. The membership of this board comprises men well known in the medical and business communities. As announced in the daily press of the 25th, the board is constituted as follows: Dr. Edmond Souchon, Dr. L. F. Reynaud, Dr. Luther Sexton, Dr. J. J. Castellanos, Dr. H. S. Lewis, and Mr. Stanley O. Thomas, Mr. J. D. Hill, Mr. John W. Castles, and Mr. Jules C. Denis.

Erythrol Tetranitrate in Angina Pectoris.—In a letter to the *British Medical Journal* a layman reports the use of this drug in his own case. There seem to have been no gross organic lesions of the heart, yet the patient was unable to walk any distance without bringing on an attack of angina. After the use of about a grain of the drug daily the patient was able to get about very well, the effects of each dose lasting for about five hours. It produced only a slight giddiness and not the uncomfortable feeling of fullness in the head such as is observed after taking nitroglycerin. The drug is somewhat irritating and should be taken largely diluted.

Vivisection.—A new crusade against vivisection, says the *International Medical Magazine*, has been started recently in Baltimore. It is headed by Cardinal Gibbons, Bishop Paret, and other prominent citizens of Baltimore. An antivivisection society has been formed, and the medical school of Johns Hopkins University has been selected to suffer from its attacks. Such periodical outbreaks are, in the end, of great value to science, for the study of mental epidemics.

The Birth Rate in France during 1896.—According to the *Progrès médical*, the figures are slightly less discouraging than for the past few years. The number of births was 865,586, equivalent to 22.7 births to a thousand of the population, the smallest birth rate in Europe, where the average is 38 to a thousand. The deaths, on the other hand, were 771,886, which is a lower number than has been observed for years.

Voluntary Exophthalmia.—At a meeting of the Belgian Ophthalmological Society (*Gazette hebdomadaire de médecine et de chirurgie*) Dr. Lacompte presented a young man who had had voluntary exophthalmia for three years. The speaker had done an exploratory operation without finding any cause for the symptom, but since that time the exophthalmia had diminished and the vision had increased from $\frac{2}{20}$ to $\frac{16}{20}$. Dr. Van Duyse, of Ghent, said that in his experience such phenomena occurred in cases where the orbital fat had disappeared, and the patients nearly always recovered spontaneously.

The Woman's Hospital, Baltimore.—Dr. Robert T. Wilson, says the *Journal of the American Medical Association,* is to succeed his father, the late Dr. H. P. C. Wilson, as chief surgeon.

What may be Assumed in Hypothetical Questions.—In the direct examination of experts, says the *Journal of the American Medical Association*, only such facts should be assumed as are fairly within the scope and range of the testimony. Upon cross-examination, however, the Illinois Supreme Court holds that any fact which, in the discretion of the court, is pertinent to the inquiry, may be assumed in a hypothetical question with a view to testing the skill, learning, or accuracy of the witness, or to ascertaining his opinion.

In other words, a question, though it goes beyond the scope of the evidence, may be asked upon cross-examination if its office and purpose are to elicit the reason upon which the witness based an expressed opinion.

The New York Academy of Medicine.—At the next meeting of the Section in Neurology and Psychiatry, on Friday evening, the 18th inst., Dr. B. Sachs will read a paper entitled The Recognition of the Earlier Stages of General Stages, which is to be discussed by Dr. Landon Carter Gray, Dr. M. Allen Starr, Dr. Frederick Peterson, Dr. Charles L. Dana, Dr. Joseph Collins, Dr. William D. Granger, Dr. Alexander E. Macdonald, Dr. Percy Bryant, and others.

THE NEW YORK MEDICAL JOURNAL, February 19, 1898.

Original Communications.

THE ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM AND ITS CONSTITUENT NEURONES,

AS REVEALED BY RECENT INVESTIGATIONS.

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IV.

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THE HISTOGENIC RELATIONS OF THE NEURONES.

Embryology of the nervous system—The medullary plate—The neural tube—Spongioblasts and neurospongium—The marginal veil (*Randschleier* of His)—Germinal cells (*Keimzellen* of His)—The neuroblasts—Origin of axones and dendrites—Wandering of neuroblasts—Fate of the axones in the spinal cord—Formation of ventral roots of spinal nerves and of the intrinsic fibres of the white funiculi of the spinal cord—Tautomeric, heteromeric, and hecatomeric neurones—Fasciculus cerebellospinalis—Wandering of neuroblasts in the medulla oblongata—Developmental history of the motor nuclei in the medulla, the formatio reticularis, the olivary bodies, and the pyramids—Relations of the white and gray matter in the cerebrum—Origin of sensory ganglia, peripheral sensory nerve fibres, dorsal roots of spinal nerves, and dorsal white funiculi of the spinal cord—The development of the organs of special sense—The ear—The eye—The nose—Wanderings of neuroblasts in the formation of the sympathetic nervous system—Mechanical factors of development—The innervation of the diaphragm—Part played by the marginal veil—Relation to the problems of heredity.

Having had so much to say concerning the external appearances and internal structure of neurones in late embryonic and adult stages, it would scarcely be fair to close these morphological considerations without dealing to some extent with the form-relations to be met with in the domain of the nervous system earlier in the history of the organism. For not only has the study of the embryology of the nervous system, as I have pointed out, contributed enormously to the development of our modern conception of nervous organization, but the investigations, on account of the accuracy with which they have been pursued, and especially in view of the light they have thrown upon processes and arrangements which before their advent were almost hopelessly unintelligible, are surely worthy of our serious attention and command our thankful admiration.

The study of embryology attains its maximum of interest in the consideration of the development of the human nervous system. It is not my intention at this time to review what must already be familiar to all—the processes of fertilization and of segmentation, the formation of the medullary plate and of the medullary groove, the forerunners of the nerve tube—nor to describe to you how it is that the three bulgings at the head end of this simple tube, which correspond, the *first* to the fore-brain (telencephalon) and inter-brain (diencephalon), the *second* to the mid-brain (mesencephalon), and the *third* to the hind-brain (metencephalon) and after-brain (myelencephalon), gradually undergo those metamorphoses which ultimately yield the complicated brain structure characteristic of the adult.* Nor shall I permit myself to digress and describe to you how from the moment of fertilization, throughout the gradual process of the development of the embryo, influences of different kinds, such as variations of temperature, of the oxygen supply, and of other conditions of environment, or trauma leading to injury of portions of the egg or of the segmentation cells, can give rise to those unfortunate caricatures of human beings which we commonly designate as monstrosities, and for the origin of which experimental teratology has during the past few years been attempting to supply us suitable explanations.†

The histogenic relations of the neurones and of their supporting structures must, however, be dwelt upon briefly; and the description here given is drawn largely from the writings ‡ and lectures of His. At an early period, the medullary plate—which, as you know, has its origin in the external leaflike layer of the embryo, the ectoblast, the same layer which gives rise to the skin and its appendages—is made up of a single layer of nucleated epithelial cells placed side by side (Fig. 64).

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* The results of the studies of His upon the gross morphology of the human nervous system during development have been made accessible to all through his publications, and especially by means of an excellent series of exact wax-model reproductions. Based upon these we have for the first time, too, been supplied with a nomenclature for the nervous structures which fills all the demands of embryology, comparative anatomy, and clinical neurology—a nomenclature the use of which I can not too strongly recommend to those who have occasion, in writing or teaching, to make use of neurological terms. *Cf.* Section Neurologia, in *Die anatomische Nomenclatur. Nomina Anatomica.* Verzeichniss der von der anatomischen Gesellschaft auf ihrer ix. Vers. in Basel angenommen Namen. Eingeleitet und erläutert von W. His. Leipsic, 1895. This nomenclature has been closely followed in the present article, except that as a rule I have substituted the words *ventral* and *dorsal* for *anterior* and *posterior* respectively.

† *Cf.* Benda, C. *Teratologie.* Lubarsch-Ostertag. *Ergebnisse der allgem. pathol. Morphol. u. Physiol.* Wiesbaden, 1895, p. 541.

‡ The principal publications of W. His which are interesting in this connection are (1) *Anatomie menschlicher Embryonen.* Leipsic. (2) Zur Geschichte des menschlichen Rückenmarkes und der Nervenwurzeln. *Abh. der math.-phys. Cl. der k. sächs. Ges. der Wiss.*, Bd. xiii, No. 6. Leipsic, 1886, pp. 479–513. (3) Zur Geschichte des Gehirns sowie der centralen und peripherischen Nervenbahnen. *Abh. der math.-phys. Cl. der k. sächs. Ges. der Wiss.*, Bd. xiv. Leipsic, 1888, pp. 339–392. (4) Die Neuroblasten und deren Entstehung im embryonalen Mark. *Abh. der math.-phys. Cl. der k. sächs. Ges. der Wiss.*, Bd. xv, No. 4. Leipsic, 1889, pp. 313–372. (5) Die Formentwickelung des menschlichen Vorderhirns vom Ende des ersten bis zum Beginn des dritten Monats. *Abh. der math.-phys. Cl. der k. sächs. Ges. der Wiss.*, Bd. xv. Leipsic, 1889, p. 673. (6) Die Entwickelung des menschlichen Rautenhirns vom Ende des ersten bis zum Beginn des dritten Monats. I. Verlängertes Mark. *Abh. der math.-phys. Cl. der k. sächs. Ges. der Wiss.*, Bd. xvii, No. 1. Leipsic, 1890, pp. 1–74. (7) Zur allgemeinen Morphologie des Gehirns. *Archiv f. Anat. u. Physiol.*, Anat. Abth., 1892, p. 346. For the reports of two interesting addresses upon some of the general results of His's work the reader is referred to (1) His, W., Histogenese und Zusammenhang der Nervenelemente. *Verh. des X. internat. medic. Congresses.* Berlin, 4–9 Aug., 1890. Bd. ii, p. 93. Berlin, 1891; and (2) His, W., Ueber den Aufbau unseres Nervensystems. *Berl. klin. Woch.*, 1893, Nos. 40 and 41, pp. 957 and 996. An excellent critical review in English of all the literature upon the development of the human nervous system in its early stages is to be found in C. S. Minot's *Human Embryology*, pp. 593–742.

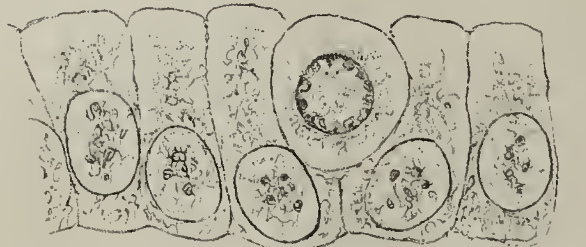

Fig. 64.—Section through medullary plate of rabbit. Among the epithelial cells a large round germinal cell with clear protoplasm is visible. (After His.)

The planes corresponding to the two ends of the epithelial cells represent the upper and lower surfaces of the medullary plate and, after the formation of the medullary or neural tube, the inner and outer surfaces of the wall of the tube, the inner surface of the wall of the tube thus obviously corresponding in its origin to the outer surface of the embryo. The nuclei of the epithelial cells of the plate do not all lie at the same level, but form several rows corresponding to differences in the distribution and arrangement of the protoplasm in the individual cells (Fig. 65). The nuclei are rarely, however, situated at the ends of the cell, so that very soon the medullary plate, as seen on transverse section, can be divided into three more or less distinct zones—a middle zone containing the nuclei and two border zones free from nuclei. These last two are made up of the protoplasmic ends of the epithelial cells and behave very differently in their further differentiation. In the protoplasm of both ends of the epithelial cells hyaline areas resembling vacuoles soon appear. In the distal ends of the cells (that is, the ends directed toward the outside of the body in the medullary plate or those directed later toward the inside of the medullary tube) the cell bodies tend to collapse so as to form a series of striated pillars with spaces between the individual cells. The free ends of the cells retain their original breadth and with those of neighboring cells form a thin limiting membrane. The proximal ends of the cells, instead of collapsing, assume a ragged, irregular appearance, the protoplasm becoming, according to His, manifoldly perforated, so that the framework between the perforations yields a reticulated appearance (Fig. 66). For a time the boundaries between the individual cells at the proximal ends are easily discernible,* but very soon, through further development and extension, the cell boundaries disappear, and we have the appearance of a spongy network or of a closely felted thicket, the neurospongium of His. Whether we have to do in the threadwork with an actual closed network seems as yet not quite certain. Ramón y Cajal, from the study of silver preparations, denies this, and also disputes the independence of the cell territories which His maintains for the neurospongium.

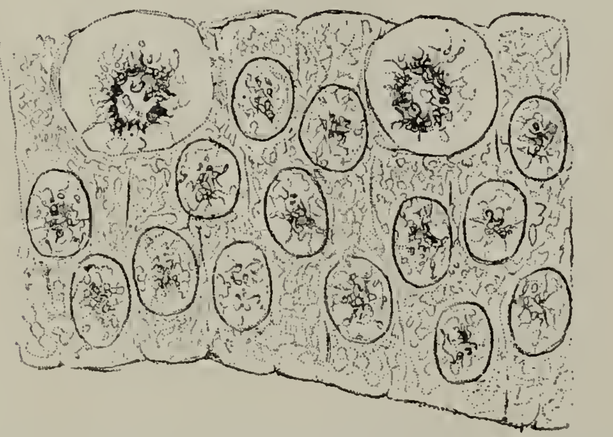

Fig. 65.—Section through neural tube which is beginning to close. The number of epithelial nuclei is considerably increased, and in the different cells they do not lie at the same level. Two large germinal cells are visible toward the inner surface. (After His.)

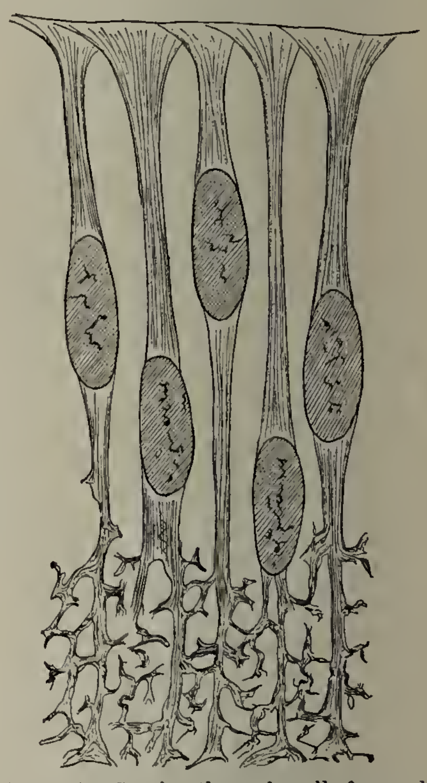

Fig. 66.—Section through wall of neural tube at a later stage. Differentiation of the two ends of the epithelial cells. (After His.)

This thicket, which in the closed medullary tube forms the periphery of its wall, becomes more and more complex with further development. The feltwork, at first extremely close, shows later wider meshes, the whole spongy structure forming a *peripheral* or *marginal veil*—the *Randschleier* of His. As we shall see presently, the threads of this veil form a scaffolding of fine beams which later appear to play an important mechanical rôle in determining the course and direction of the developing nerve fibres. Indeed, the marginal veil persists throughout life and appears to correspond in the adult to the ependymal framework of the white matter of the whole of the central nervous system.†

Very early in the history of the medullary plate there are to be made out in the intercellular spaces of the border zone, which corresponds to the distal ends of the epithelial cells, elements which have an entirely different appearance from those just described. These elements are designated by His as germinal cells (*Keimzellen*). They are, as a rule, at first spherical in shape, possess characteristic clear protoplasmic bodies, and their nuclei in well-fixed preparations are usually seen in the process of rapid division by caryocinesis (Fig. 67). The exact relations of these cells to the epithelial cells before described and to the other cells of the ectoblast still form the subject of some dispute. The idea that the *Keimzellen* are fundamentally different from the epithelial cells has been vigorously opposed by Kölliker (*op. cit.*), Schaper (Zur feineren Anatomie des Kleinhirns der Teleostier, *Anat. Anz.*, Bd. viii, 1893, pp. 705–720; Die morphologische und histologische Entwickelung des Kleinhirns der Teleostier, *Morphol. Jahrb.*, xxi, 1894, pp. 625–708), and Vignal (Sur le développement des éléments des couches corticales du cerveau et du cervelet chez l'homme et les mammifères, *Arch. de physiol.*, xx (1888), pp. 228–254 and 311–336.—Développement des éléments du système nerveux cérébro-spinal. Nerfs périphériques. Moelle. Couches corticales du cerveau et du cervelet. Paris (Masson), 1889). The whole matter has been very recently subjected to a critical review by Schaper (Die frühesten Differenzirungsvorgänge im Centralnervensystem, *Archiv für Entwickelungsmechanik der Organismen*, Bd. v, 1897, Heft 1). It is urged that the *Keimzellen* are really only young proliferating forms of epithelial cells which afford material for a generation of indifferent cells. These latter may be further differentiated either into nerve cells or into glia cells. Schaper has observed up to a certain period of development direct transition forms of *Keimzellen* to long epithelial cells, and pictures them. The number of spongioblasts (in the sense of His) is not sufficient to account for the origin of all the glia cells.

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* The epithelial cells at this stage of differentiation are spoken of by His as spongioblasts.

† As His has pointed out, the transformation of epithelial cells into a framework penetrated by spaces and bounded by limiting membranes is not peculiar to the medullary plate. Very similar forms are to be met with in other ectoblastic derivatives—for example, the retina, the ear, the olfactory plate, and the portions of the ectoblast adjacent to the neural groove which correspond, in part at least, to the building places of the cells of the sensory ganglia.

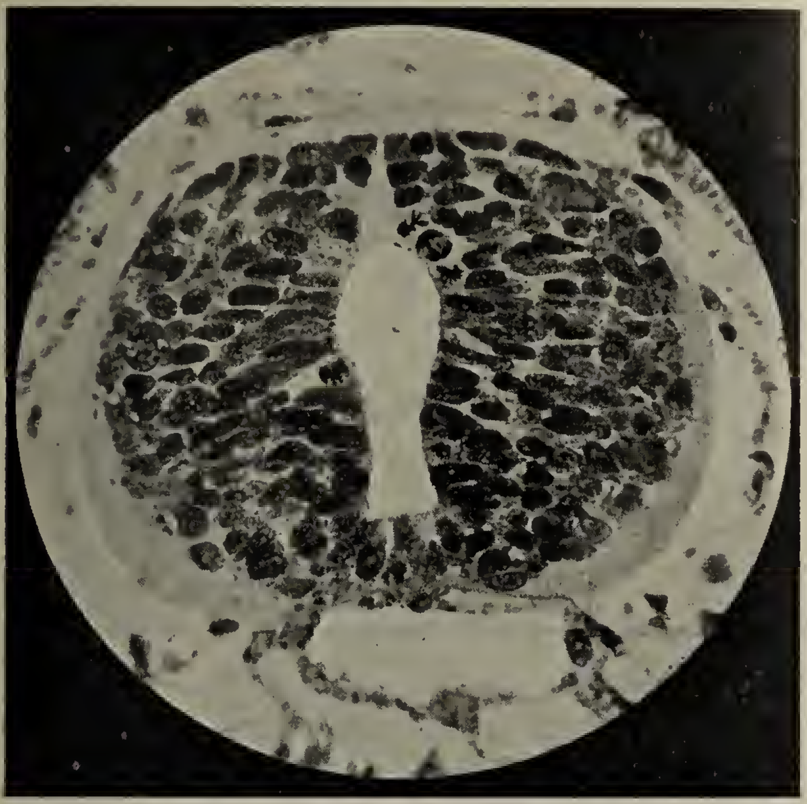

Fig. 67.—Photomicrograph by A. G. Hoen from a specimen of R. G. Harrison's through the neural tube of amblystoma. Several cells undergoing division by caryocinesis can be seen in the inner zone. A large number of epithelial nuclei are visible. The outer zone of the wall of the tube which is free from nuclei and somewhat indistinctly shown corresponds to the region of the marginal veil.

The spherical shape of the germinal cells is soon lost in the majority of instances, since at the extremity of the cell originally directed away from the outside of the body a short blunt projection appears which later becomes extended into a longer, more delicate process (Fig. 68). In silver preparations this process shows a conical pronged end knob, probably corresponding to the division of the fibre later. The protoplasm, also, instead of remaining evenly distributed throughout the cell body, tends to accumulate at the point of origin of the process, forming a feebly striated protoplasmic cone on one side of the nucleus from which the process appears to take its origin. These pear-shaped cells, the derivatives of the *Keimzellen*, are termed by His *neuroblasts*. The nucleus of the cell body of the neuroblast corresponds to that of a future nerve cell, and the single process represents the developing axone. Of the existence of dendrites there is at this period of development no evidence, and studies in histogenesis have shown us that the dendrites appear ontogenetically much later than the axone, the latter being the first process of the young nerve cell to appear and for a long time existing alone, a fact that is of especial interest, as His suggests, when we remember that in the young larvæ of frogs and fish before the feltwork formed by the dendrites of the nerve cells has appeared at all, there are already in full activity physiological mechanisms of no inconsiderable significance and complexity.

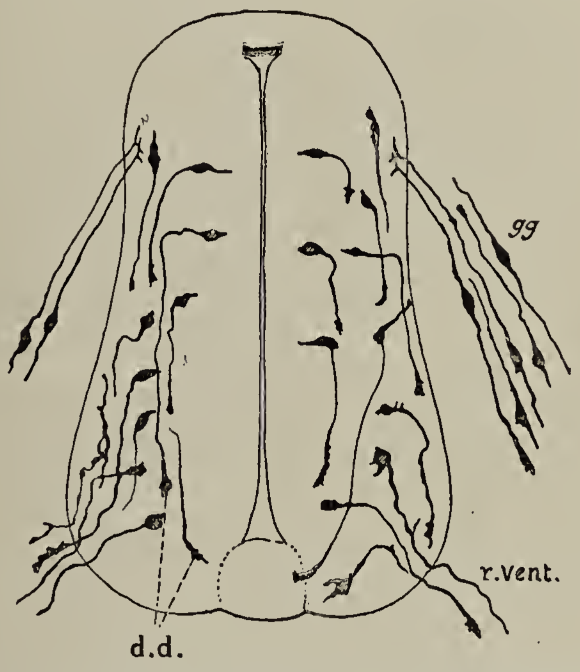

Fig. 68.—Section of spinal cord of a chick at the third day of incubation. (After Ramon y Cajal.) *gg*, cells of spinal ganglion; *dd*, ends of cells upon which the dendrites develop later. At the opposite poles are shown the embryonic axones, at the extremities of some of which there are bulbous swellings. The axones of the spinal ganglion cells divide on entrance into the cord. *r. vent.*, ventral root.

The neuroblasts possess a certain degree of motility and are capable of altering their position. Following the radiating paths which correspond to the spaces between the epithelial cells of the medullary plate, they tend soon to leave the border zone at the inside of the nerve tube where they first appear, and to wander out toward the marginal veil, there to form often a sort of mantle layer

(Fig. 69). In the marginal veil they appear to encounter an obstacle which prevents their further progress, although they may succeed in penetrating for a short distance into its meshes. The ganglion cells occasionally met with far out in the white matter of the adult spinal cord are to be looked upon as cells which have been able, through their active mobility in the neuroblastic stage, to attain a position more peripheral than that reached by their fellows.*

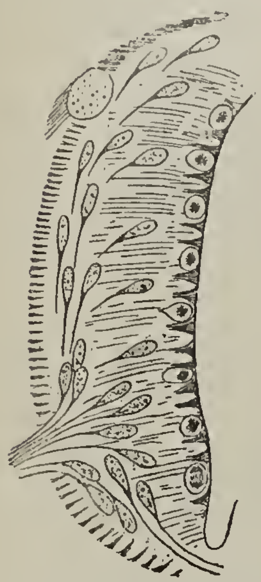

Fig. 69.—Section through half of neural tube showing the pear-shaped neuroblasts which are wandering out to form a sort of mantle upon the inner surface of the marginal veil. The axones of some of the neuroblasts have penetrated through the veil to form the ventral root of a spinal nerve. (After His.)

The various wanderings of the different groups of nerve cells in the human cord have been carefully followed.† In the formation of the mantle layer of neuroblasts the cells in the dorsal half tend to wander toward the ventral half and their processes are nearly all directed ventrally, the neuroblasts undergoing, as it were, a partial turning so as to become parallel to the surface of the marginal veil. Of the cells of the ventral half, a portion lying grouped together inside the marginal veil possess processes which, unlike those of the other neuroblasts, penetrate directly through the marginal veil to appear outside the embryonic cord, forming the ventral roots of the spinal nerves. The cell bodies of these neuroblasts represent the motor cells of the ventral horns of the gray matter, and their processes the axones of the motor spinal nerves. The processes of the other neuroblasts do not go through the marginal veil, but remain within the spinal cord. The majority of them can advance, however, for a certain distance into the meshes of the neurospongium, but sooner or later meet in it with opposition, according to His, which leads to the directing of the processes upward and downward (Fig. 70). Hence arise the axones of the intrinsic fibres of the white funiculi of the spinal cord. Those of the neuroblasts which send their processes to help in the formation of the white matter of the same side of the cord correspond in the adult to the *tautomeric* ‡ neurones; those which send their processes through one of the commissures of the white matter of the other side, to the *heteromeric* * neurones; and those of them whose processes divide into two, one going to each side of the cord, to the *hecateromeric* † neurones. The majority of the intrinsic fibres of the cord send their processes into the ventral and lateral funiculi of the white matter. Of the latter, a large bundle known as the fasciculus cerebellospinalis (direct cerebellar tract) receives its axones from the group of cells situated in the nucleus dorsalis (Clarke, Stilling).‡ Comparatively few of the neuroblasts send their processes into the region of the dorsal funiculi, these, as well as the region of the pyramidal tracts, being occupied in the adult almost entirely by nerve fibres which may, in a certain sense, be looked upon as extrinsic to the spinal cord, since their axones in their origin are entirely independent of nerve cells lying in it.#

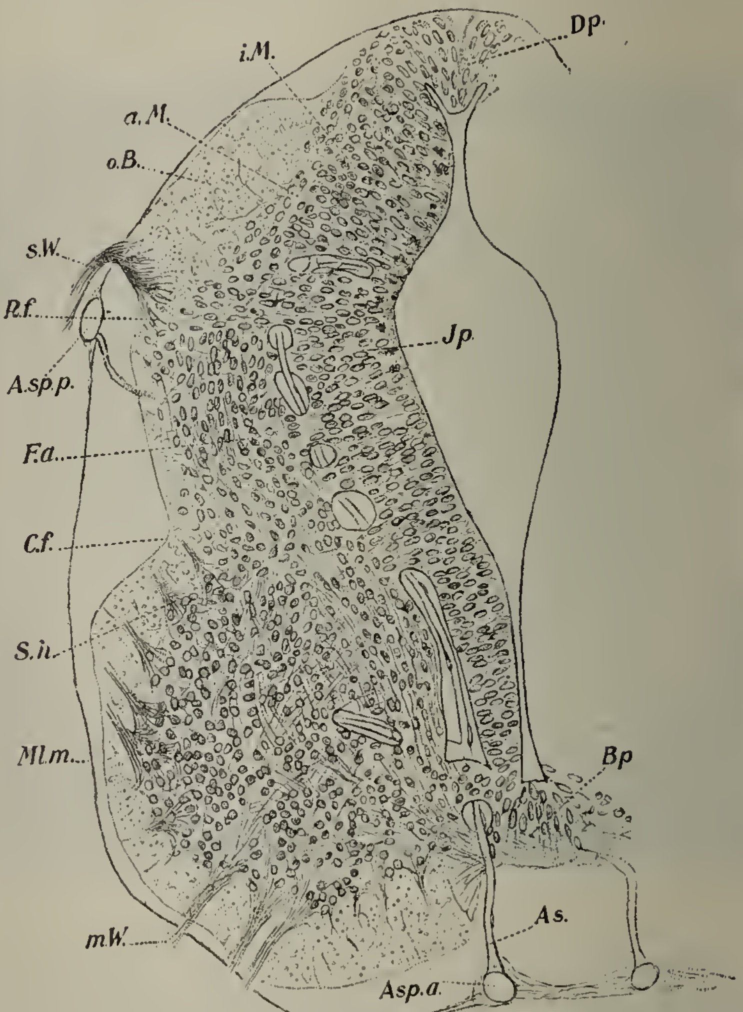

Fig. 70.—Transverse section through the spinal cord of the human embryo. (After His.)

A very marked example of the wandering capacity of

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* His has noticed in selachian embryos occasionally a cell which has even been able to reach the external border of the marginal veil, although they appeared afterward to become again surrounded by its meshes. Dohrn believes that in the region of the nervus oculomotorius there may be a permanent exit for motor cells. He brings these cells into connection with the oculomotorius ganglion of Schwalbe.

† His. Zur Geschichte des menschlichen Rückenmarkes und der Nervenwurzeln. *Abh. der math.-phys. Classe der k. sächs. Ges. der Wiss.*, Bd. xiii, No. 6, 1886.

‡ A very satisfactory nomenclature suggested by Van Gehuchten. The word tautomeric corresponds to the Greek *τό αὐτό μέρος*, the same side.

* From *ἕτερον μέρος*, the other side.

† From *ἑκάτερον μέρος*.

‡ So far as I know, the actual connection of the axones of the cells of the nucleus dorsalis with the fasciculus cerebellospinalis has not been observed, although the evidence from secondary degeneration and from Golgi specimens gives sufficient warrant for the statement in the text.

The axones of the fibres of the pyramidal tracts (fasciculi cerebrospinales) have their cells of origin in the convolutions of the so-called motor area of the cerebral cortex, while the axones of the majority of the fibres of the dorsal funiculi of the cord represent direct continuations of the central axones of the cells of the ganglia on the dorsal roots of the spinal nerves.

neuroblasts, and one to which His has frequently taken occasion to refer, is met with in the development of the medulla oblongata. In its early stages (Fig. 71) the region of the medulla is more or less pentagonal in shape, the fifth side being formed by the thin, non-nervous roof. The lateral and the ventral walls of each half of the tube conform in structure, as regards neuroblasts and spongioblasts, closely to what I have described as characteristic of the spinal cord in its early stages. In the ventral plate, in a series of sections, can be made out quite early the groups of neuroblasts corresponding to the motor nuclei of the medulla (nucl. n. hypoglossi, nucl. n. accessorii, nucl. n. vagi, and nucl. n. glossopharyngei), and at this period these nuclei, as well as the bundle of fibres known as the tractus solitarius (formed by sensory fibres from the n. vagus and n. glosso-pharyngeus, and so analogous to the dorsal funiculi in the spinal cord) are situated close to the outer surface of the medullary tube. As is well known, in the adult the motor nuclei in the medulla and the tractus solitarius are far removed from the ventral surface; indeed, they are situated close beneath the floor of the fourth ventricle (central canal), being separated from the surface by nearly the whole thickness of the ventral wall of the medulla, including the pyramids, the olivary bodies, and the formatio reticularies. The explanation of this is easy when the histogenetic relations are followed. Let us examine and see what has happened to bring about this remarkable morphological metamorphosis.

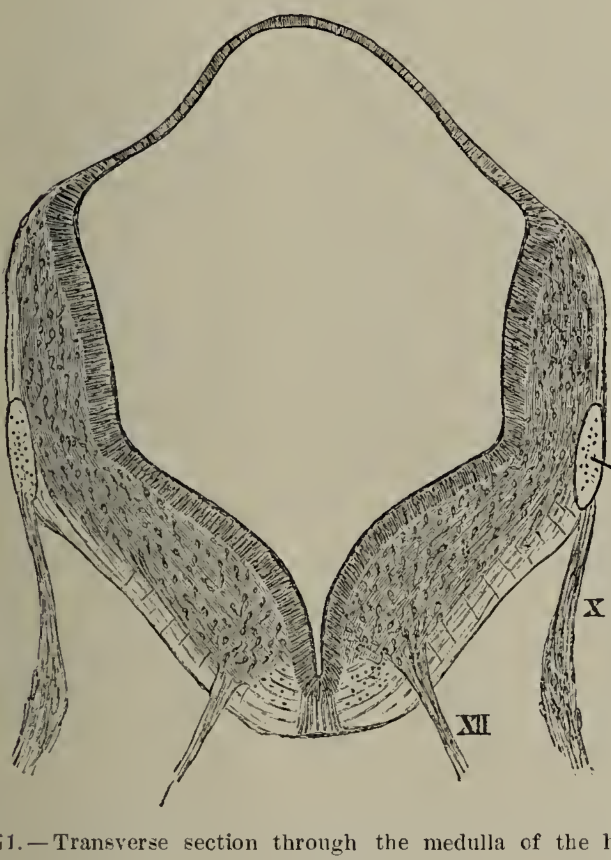

Fig. 71.—Transverse section through the medulla of the human embryo. (After His.)

The medullary tube at the stage represented in the foregoing figure on further development shows in the human embryo a liplike lateral projection resulting from the bending over of the upper border of the thick lateral wall on each side (Fig. 72). This lip, which reaches on each side from the lower end of the medulla as far forward as the junction of the metencephalon with the mesencephalon—that is, as far as the isthmus—is of decisive significance for the further shaping of the medulla,* and for the development of the cerebellum. The lip in the region we are considering bends well over and becomes adherent to the lateral wall, after which there is a visible egress of armies of neuroblasts (Fig. 73) from the lip into the lateral and ventral plates of the medulla, which lie medially to it. As they wander in, they pass ventrally as regards the tractus solitarius and motor nuclei and ventrally to the formatio reticularis, the latter in the mean time having been formed by cells in the neighborhood of the motor nuclei and solitary tract. Many of them pass medially almost as far as the rhaphe in the middle line. The motor nuclei and tractus solitarius, while retaining the same relations to the central canal, now occupy in transverse section an entirely different position as regards the ventral surface of the medullary tube. Instead of lying superficially they are buried in the depth by the crowds of neuroblasts which

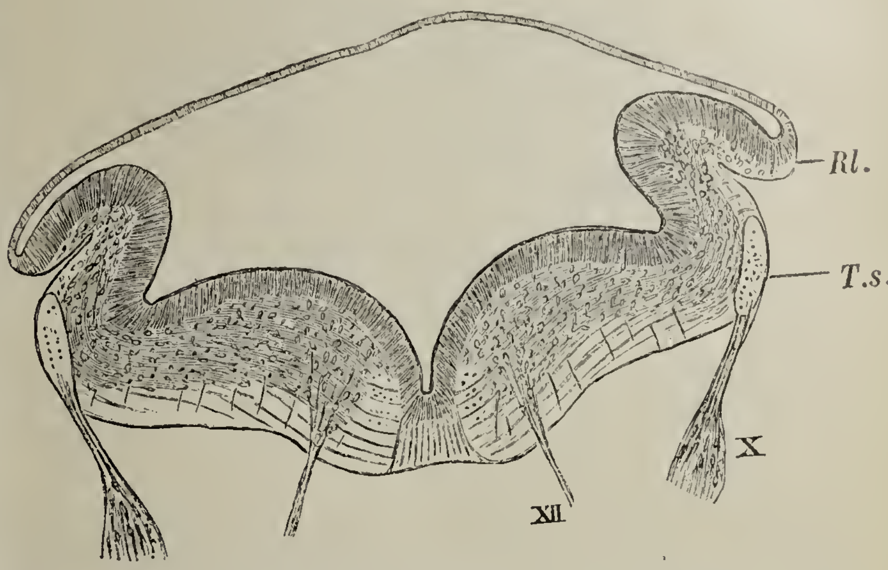

Fig. 72.—Transverse section through the medulla of the human embryo. (After His.) *XII*, the hypoglossus; *X*, the vagus; *T. s.*, the tractus solitarius; *Rl.*, rhomboidal lip.

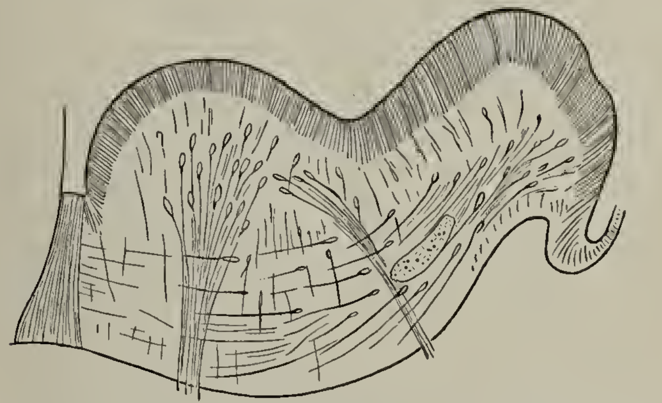

Fig. 73.—Section through a portion of the wall of the medulla of human embryo. (After His.) Neuroblasts are shown wandering from the rhomboidal lid toward the middle line. The nucleus of the hypoglossal nerve is being buried in the depth.

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* Franklin Dexter, of Harvard, has recently shown that in the rabbit the rhomboidal lip does not exist, the morphological changes apparently depending in this animal entirely upon the wandering capacities of the neuroblasts. *Arch. f. Anat. u. Phys.*, Anat Abth., 1895.

have wandered in from the lateral regions. These neuroblasts arrange themselves so as to form the olivary nucleus and the medial and lateral accessory olivary nuclei (Fig. 74), and last of all the burying is made still deeper by the appearance of the pyramids, great bundles of fibres, the last to be medullated in the medulla, which represent the processes of neuroblasts situated high up in the pallium of the fore-brain, telencephalon, which have grown down through the inter-brain, diencephalon, and mid-brain, mesencephalon, to the medulla to end at different levels in the spinal cord. Thus the lamellation of the medulla in late embryonic stages and in the adult (Fig. 75) must be looked upon, as His says, as the result of a historical development of which the different stages are represented by the successive addition of (1) the motor nuclei; (2) the formatio reticularis; (3) the olivary masses; (4) the pyramids. As they lie so they have developed. Their position is, as it were, the key to their developmental history.

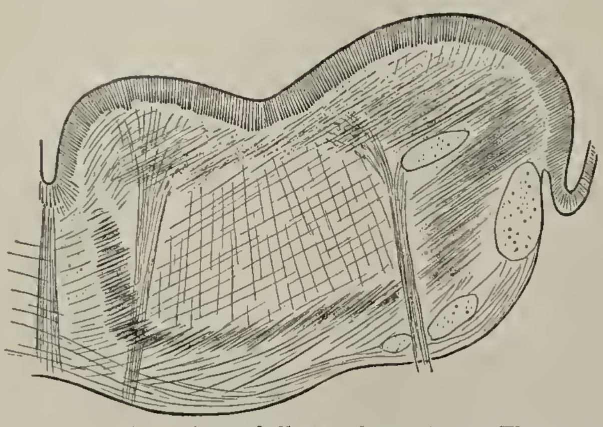

FIG. 74.—Scheme of embryonic medulla at a later stage. The gray masses corresponding to the olivary bodies have been formed, and the nucleus of the hypoglossal nerve and the tractus solitarius are far removed from the ventral surface. (After His.)

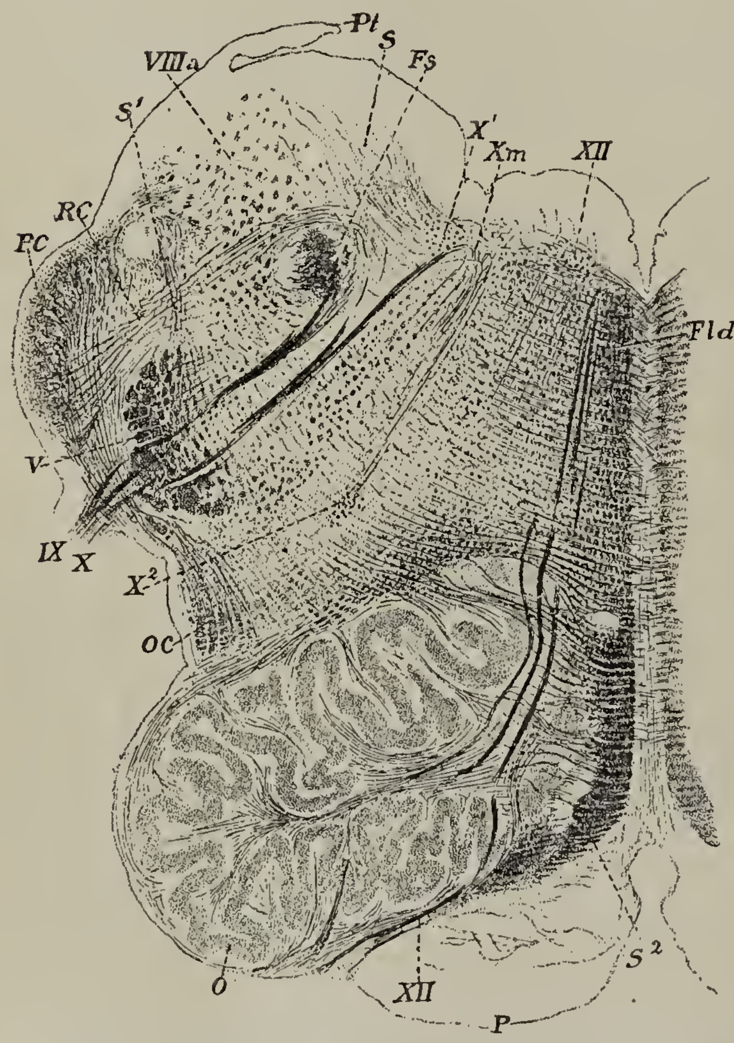

FIG. 75.—Transverse section through one half of the medulla oblongata of a human embryo at the eighth month. (After Kölliker.) *P*, pyramid not yet medullated; *O*, olive with accessory olivary bodies; *OC*, fibræ cerebello-olivares; *PC*, corpus restiforme; *IX*, *X*, n. glossopharyngeus and n. vagus; *X'*, nucleus of termination of sensory portion of n. vagus; *F s*, tractus solitarius; *V*, tractus spinalis n. trigemini; *XII*, n. hypoglossus. Its nucleus of origin is seen near the floor of the fourth ventricle, far removed from the ventral surface; *Fld.*, fasciculus longitudinalis medialis; *S*², stratum interolivare lemnisci.

Similar historical developments occur throughout the central nervous system, especially in the brain, where the structures present in the adult have arisen not simultaneously, but successively. So far, the different stages have not been worked out so well for any part as for the medulla. Just here may be mentioned, however, a point with regard to which a good deal of interest has always been evinced. How is it that in the cerebrum the gray matter of the cortex is outside the white matter, whereas in the spinal cord the main masses of the white matter are outside the gray substance? Again, what are the genetic relations which exist between the gray matter of the cerebral cortex and that of the basal ganglia? To these questions histogenetic studies alone can afford the answer. Those who are interested are referred to the ingenious explanation offered by Professor Mall as the result of his studies of the brain of Necturus.* He believes that "in the gradual change of gray matter from the ventricle of the brain in lower animals to the cortex of the higher, the cell undergoes a half revolution, and the side which originally pointed toward the ventricle now points toward the surface of the brain." The relations of the gray matter to the white matter in a longitudinal section of the brain of Necturus are shown in the accompanying diagram (Fig. 76).

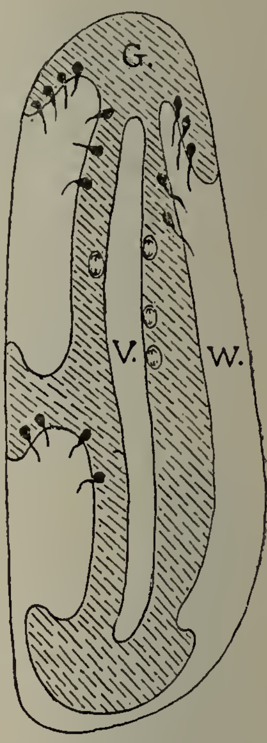

FIG. 76.—Longitudinal section of the cerebral hemispheres of Necturus. (After Mall.) *V*, ventricle; *W*, white matter; *G*, gray matter extending from the ventricle to form a rudimentary cortex. The growing point and the direction of the axone is indicated.

(*To be concluded.*)

The Indiana State Pædiatric Society, we learn from the February number of the *Archives of Pædiatrics*, was organized on December 28th. The following officers were elected: President, Dr. Paul J. Barcus, of Crawfordsville; vice-president, Dr. John A. Lambert, of Indianapolis; secretary, Dr. Louis Busckhardt, of Indianapolis; treasurer, Dr. Don Kennedy, of Homer. The first meeting will be held in Evansville on the day preceding the meeting of the State Medical Society, in May. The society contemplates the presentation of its work to the State society in the form of a summary.

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* Mall, F. P. Histogenesis of the Retina in Amblystoma and Necturus. *Journal of Morphology*, Boston, vol. viii, 1893, No. 2, pp. 415–432.

ENDOTHELIOMA OF THE PLEURA.

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THE following case is of some interest because of the pathological character of the neoplasm which was found at autopsy, and the difficulty attending the diagnosis of tumors of the lung and pleura.

G. F. H., male; aged forty-eight years; married; United States. Admitted to the medical service of the Methodist Episcopal (Seney) Hospital, July 29, 1896.

He stated that until nine years previously he had been well, but at that time had suffered from a pneumonia of seven weeks' duration, followed four years later by a second attack, and three years later by a third. Had also had annual seizures of epidemic influenza for the past five years.

In April, 1896, had a heavy cold, with fever, pain in the left chest, dyspnœa, and loss of voice, lasting two weeks. A similar attack occurred in a short time, and a third followed, beginning two weeks previous to admission. Since April there had been very considerable gastric disturbance, with frequent vomiting, and he had lost fifty pounds in weight since April, a period of about four months.

The physical signs were those of a left-side pleurisy with effusion, and considerable thickening of the pleura. It was suspected to be tuberculous, but at this time no bacilli could be found in the sputum.

Two aspirations were done, one removing three ounces, the other seventeen, of straw-colored, somewhat turbid serum. This, with other treatment, relieved him to such an extent that he left the hospital on August 10th, after a stay of twelve days.

He was readmitted to the medical service September 1st, three weeks after his discharge, with renewed cough, dyspnœa, pain in left chest, and weakness. At the time of readmission he was slightly cyanosed, with marked dyspnœa. Face sallow, eyes clear and bright, mind clear. The pulse was rapid, but regular and full. The temperature was 102.6° F., pulse 136, respiration 40. Examination of the thorax showed, upon inspection, deficient expansion of the left chest, with obliteration of the intercostal spaces below the middle third.

At the *left apex* there was diminished resonance, with harsh respiration and crackling râles. Over the *middle third* of the left chest the percussion note was dull and resistant, with bronchial breathing and numerous fine and coarse râles posteriorly. Over the *lower* third of the left chest at the back were flatness and absence of the vocal fremitus and of breath sounds. There were a few crepitant râles in front.

The right lung furnished no appreciable abnormal signs, and the heart, save for undue rapidity, was apparently normal.

On the day after admission, his condition not having improved, an aspirating needle was introduced with aseptic precautions into the seventh interspace, just posterior to the middle axillary line, and five ounces of turbid, but not bloody, fluid were withdrawn. This fluid unfortunately was not subjected to further investigation. The amount obtained was so small that a second introduction of the needle was made in the eighth interspace, somewhat posterior to the first puncture, but without result. Two hours afterward the dyspnœa had decreased, and the patient expressed himself as feeling more comfortable.

On September 3d tubercle bacilli were found in the sputum. Further aspirations were made on October 1st and 18th and November 30th, without result.

On January 11th œdema of the left side of the neck was observed. On February 10th the patient died.

During the course of the disease the temperature varied considerably. Four or five times it rose to 103° and 104° F., the rise occupying four or five days, and fell in like manner. In the intervals it ran from 99° to 100° F. In the course of the final weeks there were a number of subnormal readings (by rectum), twice going down to 96.2°. It was subnormal at death.

The alterations in the physical signs during this period consisted mainly of an increase in those which indicated an advance of the pleural thickening, and consolidation, with some softening, at the left apex. Cough, paroxysmal at times, continued.

Autopsy.—There were a few old adhesions in the right pleural cavity, but no fluid. The right lung was normal, except for passive congestion of the posterior portion of the lower lobe.

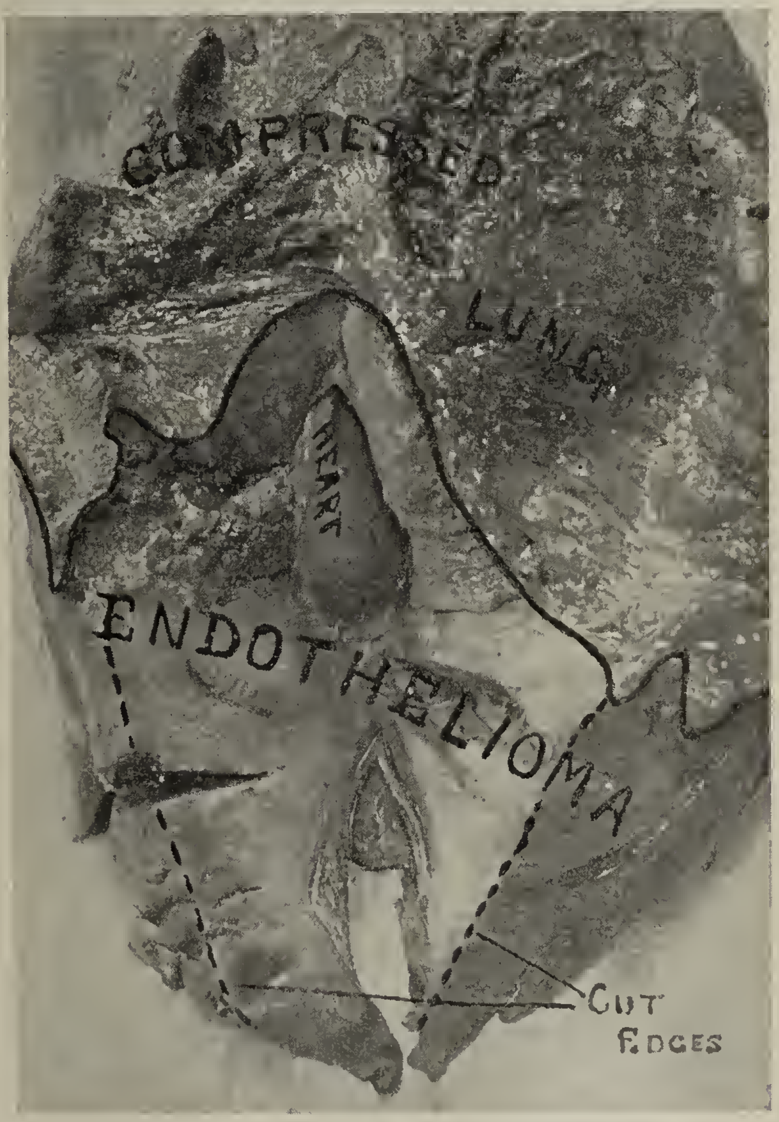

FIG. 1.

The left pleural cavity was filled with a dense, yellowish-white growth, which, when removed, weighed eleven pounds. This growth occupied the lower two thirds of the chest cavity, intruding in all directions, especially upward and in front, into the complementary pleural space, consequently nearly surrounding the heart. The pericardium was involved and greatly thickened. The lung for the most part was compressed and pushed upward and backward. The neoplasm was so large and so unusually adherent to the parietes that great difficulty was experienced in shelling it out. The upper lobe of the left lung was filled with tuberculous nodules and contained several small cavities.

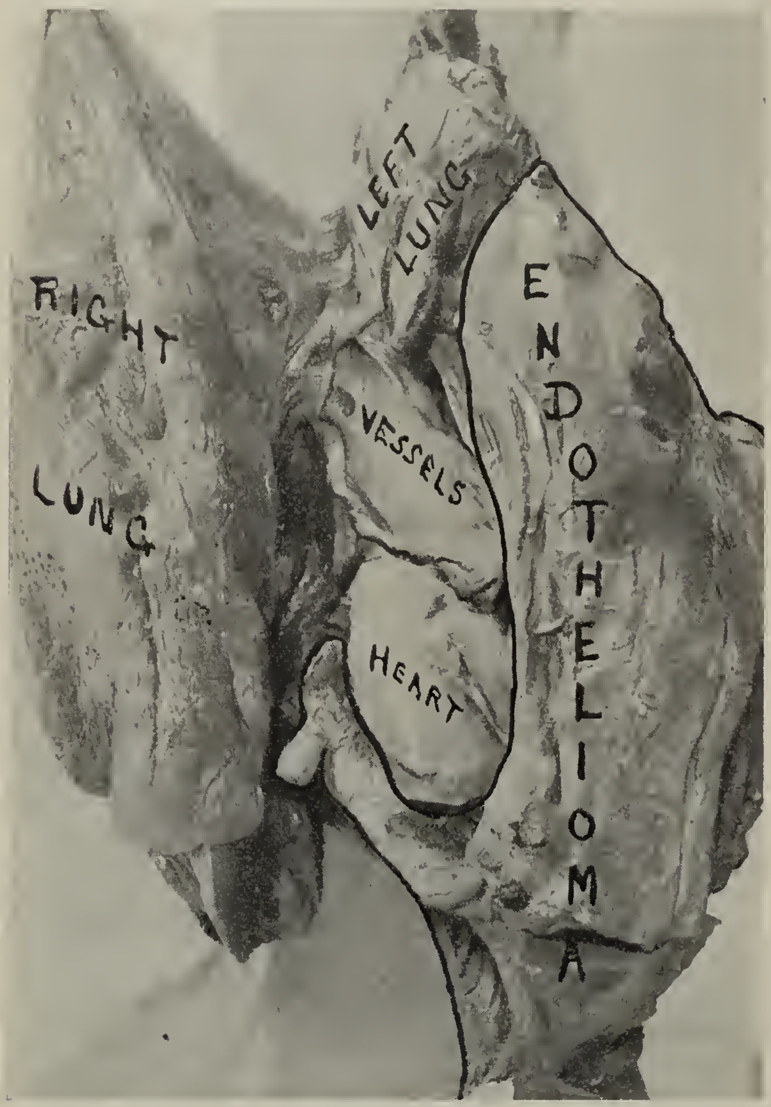

FIG. 2.

The *gross appearance* of the growth is shown in Figs. 1 and 2. When these photographs were made, by Dr. Raymond Clark, the specimen was much shrunken, as the result of seven months' immersion in alcohol.

The *microscopical examination*, made by Dr. W. N. Belcher, pathologist to the hospital, proved it to be an endothelioma, a variety of neoplasm first described by E. Wagner.

Pathologically, the nature of this growth is of some interest, because of the rather indefinite morphological characters by which it is to be identified.

An endothelioma is composed of a more or less abundant vascular stroma, which is sometimes of alveolar formation, containing endothelial cells. The cells may be pretty uniformly distributed, or, as in some instances, crowded into round masses. At times the cells are like those of normal endothelium, but are not infrequently large, thick, and irregular in contour, possibly cuboidal.

As its genesis is from endothelium, it belongs to the connective-tissue neoplasms; but in many cases it is a matter of difficulty to distinguish it from sarcoma on the one hand, and carcinoma on the other, and, as remarked by Delafield and Prudden (1), it is often required to know the place of origin of the growth before pronouncing judgment. Indeed, Hansemann (2) considers that this term embraces, morphologically, five different varieties, two of which he proposes to call, respectively, endothelial carcinoma, endothelial sarcoma, and a third, a combination of the first two, endothelial sarcomatous carcinoma. This view evidently implies, so far as pathology is concerned, that endothelium, whose embryonic origin is from the mesoderm, has a greater affinity with epithelium than with connective tissue.

It may occur as scattered nodules or as a more or less uniform pellicle of varying thickness. In the case just reported the new growth apparently originated from at least two thirds of the pleural surface, probably starting from the lower axillary parietal pleura, and grew steadily in thickness until it reached a size sufficient to compress the lung until it was well-nigh airless, and to completely surround the heart.

The clinical history of pleural endothelioma is that of a chronic pleurisy with or without effusion. If uncomplicated, it may run for a considerable time without fever, or with moderate irregular elevations, with not infrequent subnormal falls. As in pleurisy, there is apt to be pain of greater or less severity.

The differential diagnosis of a primary tumor of the pleura is always difficult, in some cases impossible, and when made, the disease is usually in an advanced stage. If it is secondary to malignant disease elsewhere, the condition is much more likely to be suspected.

The disease from which it is usually to be differentiated is chronic progressive (generally tuberculous) pleurisy.

If there is no effusion there may be some difference in the physical signs, the neoplasm giving rise in some cases to rather anomalous findings—*e. g.*, areas of resonance in the region of flatness, the latter not being sharply defined, nor changing its level with the position of the patient. The vocal fremitus is perhaps not so completely suppressed, and the intercostal spaces may be less prominent than in a pleurisy. But, as somewhat similar variations may result from tumor of the lung, encysted pleurisy, and hydatids of the pleura, one can not attach a very special importance to the physical signs.

If effusion is present, the physical signs are practically identical with those of a pleurisy or hydrothorax.

Enlarged cervical glands, the expectoration of a bloody, jellylike material, and signs of pressure upon the bronchia, the great vessels of the thorax, or the nerve trunks, point toward a neoplasm, either of the lungs or pleura.

If fluid can be obtained by aspiration, very important diagnostic evidence may be available.

If the serum is bloody, and particularly if it accumulates with great rapidity, it is suggestive of a neoplasm of the pleura, especially cancer; but, as hæmorrhagic effusion may occur also in connection with the pleurisy of nephritis, cirrhosis of the liver, and tuberculosis, as well as with cancerous pleurisy, it is by no means a pathognomonic symptom. Indeed, it may be present with simple pleurisy in otherwise healthy persons, and it occasionally arises from accidental wounding of the lung during aspiration.

If the aspirated fluid is centrifugalized, and the sediment examined by a competent microscopist, cellular elements may be found which will help in the diagnosis.

Dock (3), in a very interesting article, concludes that the principal characteristic of cancerous effusions, as compared with simple or tuberculous pleurisy, consists in the presence of an unusually large number of cells exhibiting mitotic figures, and of these many are atypical.

He infers from the results of his own case and that described by Rieder (4), whom he quotes, that it should often be possible to make a diagnosis by this means, especially between cancer and tuberculosis of serous membranes.

An examination of the blood may afford diagnostic aid, as a very considerable leucocytosis is present in malignant disease of the lungs or pleura. The average leucocytosis of pneumonia is 24,000; of empyema, 18,000; and in cancer of the lung or pleura it is much higher (Cabot) (5).

A diagnosis of a neoplasm, in addition to tuberculous pleurisy with great thickening, was not made in this case before autopsy, beyond a strong suspicion, for several reasons—viz., the growth was primary, the effusion was not hæmorrhagic, and the single specimen obtained was, unfortunately, not examined; there was no bloody, mucoid expectoration, and the bacilli of tuberculosis were found in the sputum. The coexistence of tuberculosis and endothelioma in this case resembles that reported by Brosch (6), in which the right pleura was tuberculous as well as endotheliomatous.

Nevertheless, the general course of the case here reported was so indefinitely anomalous that the post-mortem diagnosis was awaited with interest, and with an expectation that it would reveal a condition somewhat vaguely suspected during life. The anomalous points were the peculiar run of temperature, the œdema of the face, and the fact that the disease remained practically unilateral.

In connection with the occurrence of the disease upon the left side in this case, it is interesting to note that out of six cases of primary sarcoma of the pleura collected, and one case reported by Finley and Bradley (7), six out of the seven were upon the left side.

Bibliography.

1. Delafield and Prudden. *Pathological Anatomy and Histology.*

2. Hansemann. *Deutsch. med. Woch.*, 1896, No. 4.

3. Dock. *American Journal of the Medical Sciences*, June, 1897, pp. 665–668.

4. Rieder. *Deutsches Archiv für klin. Med.*, Bd. liv, H. 6, p. 544.

5. Cabot. *Clinical Examination of the Blood*, New York, 1897, p. 212.

6. Brosch. *Wien. klin. Wochenschrift*, 1895, viii, p. 351.

7. Finley and Bradley. *Practitioner*, London, August, 1897, p. 153.

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THE REMOVAL OF ADENOID GROWTHS OF THE NASOPHARYNX.*

By CHARLES J. PROBEN, M.D.

The early state of childhood brings with it so many unforeseen occurrences which are apt to affect the progressive development and stature of the young that the anxious mother necessarily seeks counsel in order to offset, eliminate, or intercept any cause which may appear to interfere with the future physical welfare of her offspring. Watchful of any cause that may tend to obstruct or mar the development of this tender, frail body, these causes are viewed with a great deal of apprehension. Skeptical and dubious theories are often indulged in; more frequently no attempt is made to ascertain the true cause nor sufficient stringency exercised in order to remove such detrimental factors as are discovered. Latent factors which may at first appear trivial in their effects will, if unchecked, in the course of time act detrimentally upon the muscular and osseous system. We are cognizant of the effects which environment and the proper administration and assimilation of food exert upon the material growth of our bodies; that activity and metabolism are enhanced or depreciated according to the constructive or destructive changes which the tissues undergo in order that their elements may become assimilated and discharged. This physiological metamorphosis is dependent upon a constant activity of the tissues, which derive their energy from nutritive pabulum with oxygenated elements, comparable to a combustion of organic substances outside of the body. Oxygenation is indispensable for the manifestations of vital phenomena; all activity augments with an increased supply and decreases with a diminution. Any interference, however minute it may appear to be, to the free ingress of air must in time act detrimentally upon the general health and cause a decided obstacle to the proper development of the body, if such obstructions be allowed to continue for a long enough period of time. Such an undetected obstacle would almost be equivalent to a long deprivation of some of the necessary elements of food which are imperative to life. Naturally, the bodily functions suffer and the growth of its frame is impeded. Our mechanism is, however, so exact that the system readily recognizes the existing deficiency and comprehends that a supply of air is required even at the expense of obtaining it from another though a diverted channel. Thus Nature in time adapts itself to these newly acquired circumstances, even at the expense of lessening the functional activities of the vital organs, producing an ultimate undermining of the general health. Any impediment to the free entrance of air through the upper or lower air-passages, especially in infancy and childhood, readily gives rise to manifestations which call for a quick recognition with a timely removal. If the obstruction be in the nasal fossa or the nasopharynx, the result is not so immediately perceptible, relief being naturally afforded to respiration by diverting the source of supply to a new channel.

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* Read before the Society of the Alumni of the City (Charity) Hospital, November 10, 1897.

In infancy and childhood such obstructions are of greater significance than they appear to the tyro; aside from the impediment they cause, certain complications are apt to become associated. As these remarks lead me from the caption of this paper, before discoursing on the subject of the removal of adenoid growths of the nasopharynx, let us rather look at some of the conditions they give rise to. These pathological growths occur frequently in early childhood, and are designated by the names of adenoids, lymphoid hypertrophy, Lushka's tonsil, etc. They had received but little recognition until the time (1868) when the late lamented Wilhelm Meyer called the attention of the profession to the influence they exerted upon the general health and the subsequent growth of the child. Credit is due to the perspicacity and insight of Meyer for enlightening us as to their importance, and notably the method to be employed for their relief. This advice has not been so generally adopted as it should be, excepting by the laryngologists and the pædiatrists. At the outset of their existence the growths may continue without giving any visible signs, but later on they develop signs readily recognizable.

In the early stages it is not within the province of the general practitioner to recognize their existence, from the absence of signs pointing to them, yet it is just then that we should seek to find them before they do possible damage. The obstruction these adenoids cause necessitates that air be introduced into the lungs through the buccal cavity, unfiltered and unwarmed; the mouth necessarily remains open; the tongue is apt to protrude; the jaw drops, and an expressionless countenance results. Later, vicarious and contiguous bony deformities develop, the alæ are widened, the nasal chambers become contracted. A high-arched palate and a depression of the chest wall are apt to accompany them. Transmission of vocal sounds being imperfect, disturbances of articulation appear, with an inability to pronounce certain consonants; the voice is dead and nasal in quality; and snoring, deafness, and mental hebetude afford a picture quite characteristic of an aggravated case. True, only one of these signs or symptoms may be present, but they are sufficient to direct attention to the nasopharynx. The progress in the occlusion of this cavity may extend downward, affecting the faucial tonsil at the base of the tongue, forming almost a complete circle of lymphoid tissue. The relative frequency of trauma and vicarious changes afford a very favorable nidus for pathogenic bacteria, and which gives them an opportunity to develop and exert their destructive influence on adjacent organs. In the exanthemata, for instance, this avenue of infection materially complicates conditions which are apt to arise. The bacillus of diphtheria is very prone to regard this as a favorable habitat. From the proximity of the Eustachian tube infection has a tendency to spread to the middle ear, producing catarrhal and suppurative processes inimical to the delicate apparatus. The patency of the pharyngeal opening of the tube is of such small calibre that it requires little swelling to obliterate it, with a subsequent collection of secretion favorable as a pabulum for germs. The consequent destructive influence upon the hearing is of serious moment and apt to be of lasting character. Frequently such conditions are attributed to causes through the external meatus, instead of seeking for a deep-lying cause and viewing the other end of this delicate mechanism.

For instance, acute otitis media purulenta, so prevalent in childhood, is usually treated without any regard being paid to the factors in its causation. Accruing deafness thus results, with a probable injury to the nerve, the bones, or possibly the cranial contents. Normally adenoid tissue is well known to be inimical to bacteria, and to prevent their entrance into the system. But where the tissue is diseased, the subject of trauma or other changes, bacteria readily seek it as a nidus, develop, and so gain admission into the lymphatic circulation, where they become arrested by those intervening filters, the lymph nodes. A large number will then create inflammatory states, with consequent hypertrophy. Thus it is obvious what an important avenue the tissue at the primary end of the lymphatic circulation is.

It is estimated that eighty per cent. of all cases of chronic cervical adenopathies, which are very prevalent, occur through infection from the mouth and nasopharynx, and the importance of this matter is still further enhanced when we reflect that the vast majority of these cases are tuberculous.

By contiguity the danger increases, the deeper glands become affected, spreading to the poststernal, intercostal, mediastinal, and ultimately to the bronchial glands at the root of the lung. In considering the ætiology of that dread disease, pulmonary tuberculosis, far more attention should be given to this chain of causation, and more radicalism adopted in dealing with conditions which act as starting points for a future explosion. Modern medicine rather tends to the adoption of preventive measures. During the last decade a tendency to resort to more radical procedures has manifested itself, as, for instance, in the extirpation of cervical glands, but how often does it occur that due recognition is not allotted to the true cause! Now, cognizant of the effect lymphoid growths in the nasopharynx play, total extirpation should be insisted upon. To one class of over-conservative men puberty offers a shield for non-interference and procrastination, as at this stage of life a retrograde process occurs which dissipates these growths and causes their disappearance. But the lurking danger of allowing them to remain controverts their argument.

Inactivity is detrimental; radicalism has proved by its results that we have advanced beyond the tentative stage.

Such general associated conditions as syphilis, rhachitis, and tuberculosis require special treatment, and may be predominating factors in the causation of these growths. If the presence of faucial tonsillar hypertrophy confronts us, the same methods of relief are to be adopted. With the characteristic physiognomy and other quite as characteristic signs our diagnostic acumen is not very much taxed. However, recognition of but one sign or a peculiar symptom should immediately put us on guard and lead us to make a digital investigation of the nasopharynx. This performance is quite simple, effective, and requires but a few moments. The index finger is introduced behind the palate into the nasopharynx, feeling the sæptum as a landmark, and from here follows carefully and methodically the vault and posterior and lateral walls. If an obliteration exists, it is readily recognized by a filling up of the chamber with friable masses, which are irregular and bleed even with the slightest touch. More than this examination the pharynx will rarely tolerate without decided objection. Posterior rhinoscopy is unsatisfactory in smaller children, owing to an impossibility of obtaining a relaxation of the palate muscles. Medical measures for the relief of adenoids, as the application of astringents, caustics, or the cautery, are admissible, but conducive of little good. Surgical means alone, looking toward complete eradication, should be adopted. If properly performed, they are productive of such results that recurrence in the near future is not to be expected, even in spite of some existing general dyscrasia. If the faucial tonsils require extirpation, the procedure is a little more complicated, from the fact that hæmorrhage is apt to interfere with future work upon the adenoids, yet it is advisable to remove both lesions at one sitting and then only one hæmorrhage has to be dealt with. Frequently the faucial tonsils are extirpated weeks before attacking the adenoids, so as to give the stumps time to heal and in order to obtain a clear field for the second operation. The number of instruments for the removal of adenoids is legion; the numerous curettes (Gottstein's) and forceps (Löwenberg's) are useful to remove tissue *en masse,* but they are really only of secondary value to the use of the rigid finger nail as a curette. Sharp curetting instruments, especially forceps, are to be condemned as apt to inflict unnecessary injury, especially to the sæptum and the palate. However well they are guarded, they should only be manipulated with the greatest care and precision, especially in a struggling child. The above remarks would except the Gottstein curette, which is a fairly safe instrument to use. What a reprehensible sight does it afford one to see the surgeon eagerly manipulating instruments in the nasopharynx of a child which is fiercely struggling to free itself from a firm grasp, with blood and mucus occluding the larynx, causing symptoms of strangulation! The surgeon naturally hurries to offset and relieve this precarious condition, with the result of an incomplete removal. It can not be otherwise, even though he argues that this insufficient procedure will tend to cause shrinkage of the remaining mass or particles, with consequent obliteration. But no guarantee can be exacted that recurrence will not take place.

It is well known that the nasopharynx is not very sensitive and will fairly well tolerate the scraping of a curette, but the palate, the guard before this chamber, is quick enough to forcibly repel any awkward irritation in its immediate vicinity, which, consequently, defeats our object. In order to overcome this sensitiveness local anæsthesia has been spoken off, and it demands but passing notice. Considering the rapid objection of the palate to any manipulation, one can conscientiously spare the patient much unnecessary alarm and anxiety and attain commendable results by placing the patient under the effects of a general anæsthetic. In fact, it appears imperative to permit of full manipulation of instruments; no matter how anatomical their construction may appear to be, or how delicately handled, they still act as sources of irritation. They can not thoroughly cleanse a cavity and can not hold in comparison to the use of the finger nail guided by the "*tactus eruditus.*" They are of advantage in removing masses of tissue rather too firm for the finger to break down. But, no matter how skillfully and dexterously they are used, their manipulation must necessarily be restricted. Some vestiges of tissue will always remain behind, and what instruments can not accomplish the finger nail can. The friability of the tissues naturally assists us in our endeavor to remove them, and by systematically scraping all the walls and fossæ until firm resistible background is reached, using the same accuracy as the gynæcologist does in the removal of diseased endometrium, we can accomplish what no steel instrument is able to do.

Imagine how restricted our manipulations would have to be, were it not for the use of general anæsthesia. There is no unanimity of opinion as to the use of the proper anæsthetic.

Ether has many advantages to commend it, but, considering the struggling, the choking, and nausea it produces, and its slow effect, besides working in a field where these phenomena as they arise are especially objectionable, a decided preference is to be given to chloroform.

Should dangerous symptoms suddenly supervene, the immediate necessity of revival is called for, and this can be accomplished quicker in chloroform narcosis, which is more evanescent. In the removal of adenoids but slight narcosis is required; sufficient to benumb sensation, and cause muscular relaxation, short of the surgical degree. From the proximity of the operative field to large quantities of blood and mucus, it is important that respiration should not be interfered with; and should such interference happen to occur, chloroform, which is given more gradually and in smaller quantities to produce narcosis, can be more quickly stopped and more quickly recovered from.

Partly in order to prevent obstruction of the larynx by accumulating blood, the inclined position of the body eliminates this dangerous factor.

Adding to this Rose's position, with the head overhanging the edge of the table and with pads placed underneath the shoulders and the neck, which allows us to bring into play the force of gravitation, the blood flowing out of the nostrils over the face, leaving the larynx above it free and unimpeded, with the mouth held widely open by the Denhard gag, and a suture controlling the tongue, we have adjuvants which afford us a clear field and allow us to boldly proceed. If the faucial tonsils require extirpation, they can be readily removed, especially if assisted on the outside by pressure at the angle of the jaw, which brings them more fully into prominence. To remove the adenoid growths the finger is introduced behind the palate, guiding the Gottstein curette, which by firm backward pressure and a sweeping motion removes quite a part of them. Any remaining pendulous portions are then torn away with forceps; and in order to effect a thorough cleansing, a systematic curetting must now begin with the finger nail until every vestige of morbid tissue is removed. This part of the operation should be performed carefully and persisted in until complete removal, taking especial care to clean out the fossæ. Haste is not necessary, although the hæmorrhage may be profuse, which is partly to be attributed to the inclination of the body.

Five or six fatal cases have been recorded from excessive hæmorrhage. But with the patient in Rose's posture it would not be difficult to plug the nasopharynx with strips of iodoform gauze, which is also very effective in plugging the anterior nares. Numerous advantages accrue from the use of an anæsthetic and the adoption of Rose's posture. Details can be deliberately executed without constant fear of an intervening complication which might tend to interrupt and defeat our object. The after-effects of the operation are brilliant, and disturbed only by a few days slight rise of temperature and concomitant symptoms. The mechanical effects resulting are probably more striking. There is full ingress of air through the nasal chambers, and the voice changes in character. Other symptoms rapidly disappear, if not organic; frequently the mouth-breathing persists from habit, and then requires mechanical devices for its control. Following these, the general health rapidly improves. The advantages thus resulting are very beneficial, and frequently the marked general improvement changes the individual. With increasing experience the necessity of an early recognition of the growths and steps taken looking to their complete and radical obliteration become evident, and, in order to accomplish this with the best prospects, the only method is that which can be done under narcosis. This will be of lasting benefit to the individual, and make recurrences less frequent in the future.

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GELATIN AS A HÆMOSTATIC.

By WILLIAM MARTIN, M. D.,
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IN a recent issue of the *New York Medical Journal* * an editorial treats of the use of gelatin as a hæmostatic. In the body of the article mention is made of one case of metrorrhagia due to fibroma in which the hæmorrhage was controlled by an intra-uterine injection of gelatin.

This editorial reviewed a paper upon this substance as a hæmostatic, written by a French physician by the name of Carnot, who has been experimenting with it in various forms of hæmorrhage. The editorial is responsible for its use in the case cited, viz.:

C. W. M., aged about forty-eight years, mother of four children, has menstruated irregularly for about eighteen months. About a year ago the menstrual flow continued uninterruptedly for several weeks, increasing to such an extent as to decidedly weaken her. An examination disclosed a fibro-myomatous uterus. This hæmorrhage persisted despite the fact that almost every available hæmostatic drug was used internally, as well as vaginal douches of a like nature. Tamponing was next resorted to, but also in vain. Curetting was advised and performed by Dr. W. E. Parke, of Philadelphia. This caused a cessation of the flow for about two weeks. From this time the menstruation has been fully as irregular as previous to the operation. The intervening periods of cessation were probably longer in duration, but these gradually shortened, and at last the duration of the hæmorrhagic flow increased, and at the time of using the gelatin it had been prolonged seven weeks. The previous drug and injection treatment was pursued again, but without result. With the idea of possibly postponing another curettement, the gelatin treatment was suggested and used. Antiseptic precautions were taken, and an intra-uterine injection of bichloride (1 to 8,000) was given a few moments before the gelatin. An eight-per-cent. solution of the latter was used, prepared with boiled water. This was warmed, as it solidifies when cool. On account of a rather small rubber tube from the fountain syringe, the solution was made warmer than was probably necessary, in order to secure a proper flow through the tube. In order to feel sure that the gelatin should be given the chance to do all that could be expected of it, I used full eight ounces, moving the two-flow catheter so that the solution should reach all parts of the endometrium. The character of the flow changed during the evening after the douche. The color changed to a lighter one, but there was no apparent change in quantity. The day following it became somewhat brighter, but decreased slowly in quantity until it entirely ceased at the end of the fourth day. At this writing, three weeks have elapsed, and there has been no recurrence. This cessation is so far longer by one week than that following the previous curetting. Whether this will prove to be of a more permanent nature and will obviate the necessity of a curetting remains to be seen.

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* October 23, 1897.

In reporting this case I fully realize that the details are meagre, and that one case is very little to build on; but there is some satisfaction in knowing that there is an element of value in such a harmless remedy, and that by its use a very troublesome hæmorrhagic condition may be at least modified, if not entirely stopped. I trust that the remedy will be given a more extended trial by others, and that reports will be made, so that its full value may be established.

AN UNUSUAL ASSOCIATION OF ACUTE INFECTIOUS DISEASES.

By CHARLES P. McNABB, M. D.,
PROFESSOR OF THEORY AND PRACTICE AND CLINICAL MEDICINE, TENNESSEE MEDICAL COLLEGE, KNOXVILLE, TENN.

On the 2d day of July, 1897, I was called to see Mabel R., aged five years, whom I found suffering from a cough, with other catarrhal symptoms, which in the following few days assumed the character of a well-developed and rather severe whooping-cough, which passed along without noteworthy incident until July 25th, when I was again called and found a temperature of 101°, pulse 120, respiration 36, and a hacking cough broken into, occasionally, by a well-defined paroxysmal whoop. The nose had bled several times and the head was aching. The bowels were confined. Physical examination revealed slight dullness over the lower border of the lower lobe of the right lung, and high-pitched râles bordering closely on to tubular breathing. Other râles characteristic of bronchial catarrh were scattered pretty evenly throughout both lungs. While the physical signs of pneumonia were not clearly present, a provisional diagnosis of that condition was entered and the case treated as pneumonia. The fever rose gradually each day, stepping up a degree or so every evening for four or five days, until it reached 105.5°, after which it ran along with a very slight morning remission for two weeks and a half. Epistaxis recurred every day, but was attributed to severe paroxysmal cough, which by the way had very nearly disappeared by the end of the first week, and was succeeded by the short, sharp, hacking cough so familiar in pneumonia. At this time—*i. e.*, the end of the first week—slight tympany was observed, and examination showed splenic dullness extending from the seventh rib downward in the mid-axillary line to the costal margin. The lower edge of the right lung still gave a dull percussion note and auscultation showed no change in its condition.

The diagnosis was now changed to typhoid fever and the treatment modified accordingly. The case passed along for ten or twelve days without any marked change either way. Rose-red spots came out about the ninth day, the nose bled a little every few hours, there were from two to four movements of the bowels daily, the kidneys acted freely, the chest symptoms remained the same, and considerable tympany and splenic enlargement were present. The child was dull, the pupils were dilated, there were twitching of tendons and picking at invisible objects, and the temperature was high all the time when not kept down by cool sponging. The tongue was heavily coated and the buccal secretions were almost suppressed. The paroxysmal cough had entirely disappeared, or at least was so reported to me, and I did not hear a single whoop for nearly three weeks. Thus the case lingered until the middle of the third week, when all of the symptoms began to improve, and progressed so rapidly that by the end of the third week the child was practically convalescent from typhoid fever. It was now noticed that the cough was again growing paroxysmal, and an occasional long-drawn whoop was heard. Bronchial râles were still everywhere present, but were higher pitched in the lower right lobe, and the percussion note was far from satisfactory.

On the twenty-fourth day of her illness she had a sharp chill, followed by fever of 104°, with headache, and pain in the right side. On the next morning there were bright-red spots on each cheek, pulse 130, temperature 103.5°, respiration 48, distressing short cough, bloody expectoration, scant, high-colored urine, and dullness and tubular breathing over the lower lobe of the right lung. Fortunately, the whooping-cough again abated, as if to prove that "the winds are tempered for the shorn lamb." This pneumonic process terminated by crisis on the fifth day, which was to me one of the most surprising phenomena of the whole series. From the physical condition of the patient, and the two infectious diseases present, I would not have been surprised at catarrhal pneumonia supervening, but the lobar variety did not occur to my mind. Another curious feature was that the whooping-cough returned again after the pneumonic crisis is as severe a form as before the advent of typhoid, and continued for several weeks, greatly to the annoyance of the little patient, the distress of her parents, and my own anxiety. The treatment was symptomatic. Fever was kept down to 103° with cold sponging. The circulation and nervous system were braced with strychnine, whisky, and digitalis, and intestinal antisepsis was attempted with sulphocarbolate of zinc. The diet was milk and liquid peptonoids exclusively.

The abatement of whooping-cough symptoms under the influence of typhoid fever, and again under the effects of lobar pneumonia, suggest that typhotoxine and pneumotoxine either are antidotes to the poison of pertussis or obtund the nerve centres so much that they will not respond to the irritation of whooping-cough poison. The latter is the most tenable theory, as the whoop returned after convalescence from both the other diseases.

The mode of typhoid-fever infection in this case was probably through the respiratory organs; or else the bacillus of Eberth entered the blood during the period of incubation, and, finding in this case a *locus resistentiæ minoris* in the right lung, occupied the field, and thus can be explained the misleading early signs of pneumonia.

In a somewhat extensive experience in typhoid fever, I have thrice seen the lower lobe of the right lung apparently suffer the first assault of the typhoid bacilli, and in each case I erroneously diagnosticated pneumonia, although in neither did the symptoms and physical signs fully justify the conclusion.

To account for the pneumonic invasion in this case, it is only necessary to remember that the well-nigh ubiquitous *Bacillus lanceolatus* found a soil in this child's lung, already broken by the typhoid germs, and which was therefore totally unable to resist their invasion.

Neither the toxines nor the antitoxines of typhoid and pneumonia were able to destroy the germs of pertussis in this case, as the child continued to cough and whoop until the middle of September, after which it made a good recovery.

A CASE OF DIFFUSE CELLULITIS TREATED WITH ANTISTREPTOCOCCUS SERUM.

By KENNETH W. MILLICAN, M. D.,
B. A. CAMB., M. R. C. S.,
ST. LOUIS.

A. M., aged forty-eight years; married; lymphatic temperament.

History.—In 1883 a miscarriage was followed by pelvic cellulitis and septicæmia. In 1884 both ovaries and appendages were removed for cystic disease and pyosalpinx. Ever since the pelvic cellulitis the patient has been subject intermittently to profuse fœtid vaginal discharge, and a liability to suppurative inflammations in different parts of the body, sometimes apparently idiopathic, sometimes as the result of traumatisms of slight character. In 1896 vaginal hysterectomy was done on a diagnosis of suspected cancer, based, among other things, upon the peculiar foulness and the intractableness of the discharge. For a while the discharge stopped, but has since recurred at intervals, although careful examination by experienced gynæcologists has failed to localize its source. At times the discharge ceases, and then often there occurs a crop of abscesses, more or less severe and generally diffuse. About three weeks ago patient had a diffuse abscess on the anterior surface of the left thigh, about two inches above the knee, and following a pin scratch. Fomentations and early incision. Healed lingeringly in about five days after incision.

Present Condition, December 16th.—In the evening an abscess appears to be forming on the right thigh in the corresponding site to the former one. No history of traumatism. Fomentations.

17th, 8 A. M.—Affected area about three inches in circumference, brawny, dusky, and rapidly spreading. Patient restless and in undue pain. Fomentations continued. At 4 P. M., area of erythema and indurated boggy swelling extended about nine inches up the thigh, and transversely about seven inches in the widest part. Lymphatics red and tender. Glands slightly enlarged. Temperature, 100.8° F. Pain severe and throbbing. A free incision evacuated considerable diffused pus. Three injections of one cubic centimetre each of "antistreptococcus serum (formula Fisch)" were given, one at the upper edge of the erythematous area, one at the lower edge, and one into the incision. At 8 P. M., discharged freely. Temperature normal. Patient easy. Pain slight. The erythematous and infiltrated area has diminished to the size of the palm of the hand. Discharge now merely sero-sanguineous. Lymphatic injection scarcely visible.

18th, 8 A. M.—Had a good night. *Infiltration and redness disappeared.* A slight serous oozing from the wound, whose edges display *no greater redness than is present in a clean aseptic wound in healthy tissue.*

REMARKS.—Of course, much of the relief and the subsidence were due to the escape of pus and the relief of tension; but it seems a fair deduction that the *marvelously rapid subsidence of all the effects of the previous inflammation* and the speedy replacement of pus by sero-sanguinolent discharge (especially when the patient's proneness to suppurative inflammation and the length of time ordinarily required by her for suppurative processes to heal are considered) were due to the use of the antistreptococcus serum.

THE TREATMENT OF INTUSSUSCEPTION.

By THOMAS MANNING, M. D.,
NEW ROCHELLE, N. Y.,
FORMERLY VISITING PHYSICIAN TO ST. JOSEPH'S HOSPITAL, NEW YORK.

WHEN a diagnosis of intussusception is positively made, the proper method would be to open the abdominal cavity and reduce it. In reducing an intussusception traction from above the mass should never be employed; for, should the parts be gangrenous, slight traction may suffice to rend them and allow the intestinal contents to pass into the peritoneal cavity. Pressure on the apex of the mass in the direction opposite to that which it formed will reduce it with the least danger. When it is irreducible or gangrenous, or when an artificial anus has to be made, the prognosis is very grave.

When the physician from any cause elects to make cœliotomy a *dernier ressort,* that which will next appeal most forcibly to him will be rectal injections of either liquids or gases, in the hope that the pressure exerted by these substances will reduce the intussusception. Surgeons whose authority and ability are recognized do not favor these methods, because, while the amount of pressure that the colon in its normal condition can withstand without rupture is known, the amount under diseased conditions, such as intussusception, can not even be approximated. Injections are weakening and are sometimes followed by collapse; and finally, they postpone a favorable time for operation and recovery to a time when the operation is performed under the most unfavorable circumstances and with little hope of success.

The following case has recently occurred in my practice:

James H., aged eight months, nursed on the breast, a well-developed child, moderately constipated at times. On the 23d of December, 1897, his mother put him in his armchair and went downstairs. She returned after a short absence and found him crying. She took him in her arms, when he turned slightly pale and appeared to her to have fainted. He soon partly revived, resumed crying, vomited, and refused the breast. I saw the child about an hour later. He was crying and was very restless. Nothing could pacify him. His tongue was clean, pulse 130, temperature normal. He had a passage that morning. I was assured that he had swallowed nothing to cause him pain. I was at a loss for a diagnosis, but thought he was suffering from intestinal colic. I ordered a dose of castor oil, prescribed two-grain powders of bromide of potassium, and left, assuring the mother that her child would be well next day.

I was sent for on the following night, and on my arrival a different picture presented itself. I was told that since my last visit the child had vomited everything that was given him, except some paregoric. He had entirely refused the breast, and the only intervals of rest he had were ten to fifteen minutes after each dose of paregoric. He had no movement from his bowels, but had a constant straining, and each time the napkin was removed a little blood and mucus were found on it. Once a clot of blood was found which the mother called a piece of red matter. He voided very little urine.

Palpation of the abdomen was not difficult. The child ceased crying during the procedure. It revealed a small sausage-shaped mass below and to the right of the umbilicus. A rectal examination was not made. I knew then I had a case of intussusception.

After explaining to the mother the very serious condition in which her child was, I dwelt on the feasibility of an abdominal incision and reduction of the intussusception. The operation was immediately refused. I then gave the child a high rectal injection of a tepid salt solution from a fountain syringe, to which was attached a soft male catheter. During the injection the patient's body was inverted and about a quart of water was thrown into the colon. Three attempts were made to introduce the catheter before it was successful, for when a few ounces of water were introduced the child strained violently, pressing out the catheter, the fluid, and a little blood. On the third attempt the solution was introduced, and the catheter rapidly withdrawn. A folded napkin was pressed against the anus. The child was placed in a horizontal position and its abdomen gently kneaded. The abdomen seemed enormously swollen. In a short time the third injection was returned, followed by a quantity of flatus, but no fæces. The child was instantly relieved. The sausage mass could not be felt. A faint smile lit up the pinched face. He nursed eagerly, the first time in thirty-six hours. While nursing he urinated copiously, and soon after dropped into sleep.

He slept from midnight till 5 A. M. When he awoke it was seen that the results from the injections were only temporary. I was sent for and reached the patient's house about 8 A. M. I had no difficulty in again finding the intussusception. It appeared to have moved a little from its first position. Assisted by the child's father, I gave the patient another high rectal injection. The catheter could not at first be pushed higher than half its length. Attempts to push it farther caused violent straining. The fountain syringe was lifted about six feet over the patient's body and at least three pints of the solution were thrown into the colon. The second injection, like the first, caused immediate cessation of all the symptoms. The child became immediately playful, took the breast readily, and fell asleep soon after. I called that afternoon and was surprised and gratified to hear that the child had had two stools since morning. The first one occurred about an hour after I left; the second, soon after. Since then the child has progressed rapidly to good health.

PECULIAR LODGMENT OF A FISH BONE.

By M. D'ARCY MAGEE, A. M., M. D.,
WASHINGTON,
ASSISTANT TO PROFESSOR OF BACTERIOLOGY, GEORGETOWN MEDICAL COLLEGE.

Apropos of an article, Otitis Media Subcutiva Acuta from Swallowing a Pin, reported by Dr. Hoover in a recent issue of this journal, I might cite quite an interesting case which came to my notice, where a fish bone took lodgment and was completely buried in the tonsil.

Mr. B. came to my office a few evenings ago, suffering considerable pain and uneasiness, having, as he claimed, swallowed a fish bone, which after repeated efforts could not be dislodged.

A careful inspection of the mouth and pharynx and use of the laryngoscope revealed no traces of a bone. A localized sensation felt by the patient directed an examination of the right tonsil, which, apart from being slightly enlarged, portrayed no evidences until, passing my finger back and gently pressing upon the tonsil, I discerned a distinct pricking sensation. Further examination by means of the thumb forceps and mirror elicited a little white speck down in the tonsillar crypt, which upon being withdrawn was found to be a semicircular piece of fish bone half an inch long. The bone was completely buried from sight, and the little portion which slightly protruded resembled a tonsillar crypt with slight exudation.

Evidently the bone, after being partially lodged, broke off during further acts of deglutition, as the patient remembers a feeling as though he had successfully swallowed a piece of bone. The pain was mostly confined to the right ear.

Its deep situation, with scarcely a visible trace, and pain referred to right ear and posterior nares, makes it of singular interest, and may prove of benefit in directing a more careful examination of the tonsils in such cases in the future.

1355 Corcoran Street.

The Society of Medical Jurisprudence.—At the one-hundred-and-thirty-second regular meeting, on Monday evening, the 14th inst., Dr. F. Ferguson was to read a paper entitled Somatic Death.

Therapeutical Notes.

Lancaster's Mixture for Whooping-cough.—This formula is given in the *Revue mensuelle des maladies de l'enfance* for December, 1897:

℞ Tincture of belladonna	10 parts;
Phenacetine	5 "
Brandy	15 "
Fluid extract of chestnut leaves	60 "

M. Ten drops to be given every two to six hours to a child a year old; to one ten years old as much as a teaspoonful may be given.

Black Oxide of Copper as an Anthelminthic.—Sass (*Medish Weekblad*, 1897, No. 20; *Journal des praticiens*, November 27, 1897) calls attention anew to the use of black oxide of copper, first recommended by Hager, in 1888, as a remedy for tapeworm. It is given in the form of pills made according to the following formula:

℞ Black oxide of copper	90 grains;
Prepared chalk	30 "
White clay	180 "
Glycerin	150 "

M. Divide into 120 pills. From eight to twelve pills are to be taken daily. For a week the patient takes two pills four times a day, and for the second week three pills four times a day. During all this time he must abstain from taking anything acid. At the end of the two weeks a good dose of castor oil is given.

For children the following formula is employed:

℞ Black oxide of copper	75 grains;
Prepared chalk, Magnesium carbonate, } each	15 "
Tragacanth	150 "
Glycerin	75 "
White sugar	600 "
Water	a sufficiency.

M. Divide into fifty pastilles. Two or three to be taken daily. At the end of three or four days the *débris* of the tænia appear in the stools, and the symptoms caused by it disappear. This treatment requires no rest in bed, and it is particularly recommended for cases that have proved refractory to other remedies.

Iodoformal.—Reuter (*Deutsche medicinische Wochenschrift*, 1897, No. 32; *Centralblatt für Chirurgie*, December 4, 1897) has employed iodoformal extensively in various sorts of wounds and purulent inflammations, usually in the form of this ointment:

℞ Iodoformal	15 grains;
Peruvian balsam	from 3 to 5 drops;
Anhydrous lanolin, American vaseline, } each, enough to make	150 grains.

M.

He uses also an ointment of half this strength. In gonorrhœa of the vulva he employs iodoformal as a dusting powder. He reports rapid cures of gleet by means of twenty-per-cent. bougies of iodoformal with gum arabic and glycerin. The advantages of iodoformal over iodoform, he says, are its weaker odor, its greater drying power, its slower solution, and its non-poisonous quality.

Carbolized Paper.—Bedoin, cited by Adrian (*Journal de médecine de Paris*, January 16th), gives the following formula:

℞ Carbolic acid	1 part;
Paraffin, Vaseline, } each	2 parts.

Melt together and dip cigarette paper in the mixture.

Pills for Neurasthenia.—The *Revue médicale* for January 26th takes the following formula from the *Journal de médecine de Paris*:

℞ Iron lactate	2 drachms;
Iron arsenate	3 grains;
Extract of nux vomica	7 "
Extract of gentian	45 "

M. Divide into a hundred pills. Two to be taken with each meal.

Iron and Arsenic in the Treatment of Chlorosis.—The *Revue médicale* for January 26th attributes the following formula to Casate:

℞ Iron and potassium tartrate, Solution of potassium arsenite, } each.	1 part;
Distilled water	3 parts.

M. From five to ten drops, in a little wine, are to be taken with each meal.

Ammonol Suppositories in the Treatment of Hæmorrhoids.—Dr. T. W. Williams (*Public Health Journal*, January) recommends the following formula:

℞ Ammonol	60 grains;
Beechwood creosote	6 "
Rectified tar	24 "
Fluid extract of belladonna	12 minims.

M. Divide into twelve suppositories. One to be used at bedtime.

A Pill for Migraine.—The *Journal des praticiens* for January 29th gives the following formula:

℞ Quinine valerianate	$1\frac{1}{2}$ grain;
Caffeine citrate	$\frac{3}{4}$ of a grain;
Extract of Indian hemp	$\frac{15}{100}$ " "

M. Two or three such pills to be taken daily.

A Collutory for Painful Dentition.—The *Journal de médecine de Paris* for January 23d ascribes this formula to Chompret:

℞ Cocaine hydrochloride	2.25 grains;
Chloroform	15.00 "
Glycerin	300.00 "
Oil of roses	6 drops.

M. To be rubbed on the gums several times in succession.

A Vaginal Antiseptic and Astringent.—The *Journal de médecine de Paris* for January 30th attributes the following formula to Lutaud:

℞ Alum, Boric acid, } each	900 grains;
Carbolic acid, Oil of wintergreen, } each	20 drops.

M. A teaspoonful to be dissolved in a pint of hot water for a vaginal injection.

Ergotine in the Treatment of Hæmoptysis in Children.—The following prescription (*Gazette hebdomadaire de médecine et de chirurgie*, January 27th) is attributed to Cadet de Gassicourt:

℞ Ergotine	1 part;
Syrup of rhatany	10 parts;
Distilled water	100 "

M. S.: A dessertspoonful every hour.

Cachets for Intestinal Antisepsis in Typhoid Fever.—In the *Gazette hebdomadaire de médecine et de chirurgie* for January 27th we find this formula attributed to Royster:

℞ Thymol, Guaiacol carbonate, } each	90 grains;
Medicinal soap	a sufficiency.

M. Divide into thirty cachets. One to be taken every four hours.

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NEW YORK MEDICAL JOURNAL,
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THE UNIFICATION OF STATE REQUIREMENTS.

It is, of course, desirable that the requirements for the license to practise medicine should be practically the same in the different States. The *American Medico-surgical Bulletin* for February 10th calls attention to the fact in its leading editorial article, in which it remarks that it is certainly a hardship that "a great practitioner" living in Philadelphia, for example, should be debarred from attending a patient in Camden or in New York without having undergone an examination for which few properly qualified middle-aged physicians are fitted. The general practitioner, says our contemporary, has forgotten much of his anatomy and all his chemistry and surgery by the time he has reached middle age, while the laryngologist, the otologist, or the ophthalmologist has become "very misty in his knowledge of leg or rectal anatomy."

The *Bulletin* mentions two plans by which unification of the State requirements might be accomplished perhaps. The first would work through the agency of the American Medical Association, but that body, says the writer, represents only a portion of the medical practitioners of America, and, moreover, it is very doubtful if a law which it might ultimately propose would stand any chance of adoption. The second plan would be for the medical examining boards to hold a convention and, if possible, after slow and careful discussion, come to some agreement or common basis of action by virtue of which a practitioner legally qualified in one State might be authorized to practise in any other State. But the *Bulletin* sees difficulties in the way of this plan also, at least in the way of its being put into execution within a reasonable length of time. "If, however," it says, "the medical examiners of various co-lying States should agree that their laws were sufficiently alike to warrant a legal inter-recognition of them, and should procure the necessary legislation, a group of co-acting States would be formed which would practically lessen the difficulties of the present situation, and would, further, become a focus to which would probably gravitate, one after another, the outlying States."

Our contemporary's suggestion strikes us as ingenious, and we can at present see no insurmountable difficulty in carrying it out, at least through the primary stage, that of forming an arrangement on the part of two or three adjacent States that should serve as the nucleus for an extension of the system. We heartily indorse the *Bulletin's* statement that it would be unwise to attempt to procure national legislation on the subject.

THE MOBILE QUARANTINE CONVENTION.

The expectations which we had entertained respecting the character and work of the Mobile quarantine convention have not been realized, and we regret to reach the conclusion that it was largely devoted to medical politics and only incidentally to the work for which it was ostensibly called. The programme and the names which appeared in connection with it promised, as we stated in last week's issue, if it was "conducted upon a high plane, with patriotic purposes, and was designed by its promoters to reach conclusions for the public good, it should be of decided value in the problem of caring for the public health, which is uppermost in the minds of the profession at the present day."

The only papers read and discussed related to quarantine in its national and State aspects, and the general tone of the papers was political in discussing the doctrine of States' rights, the relations of the North and the South, and the political features of administering national and State quarantine. The convention was called as a convention of the South Atlantic and Gulf States, which had a specified representation; but it appeared when the convention assembled that among the delegates were certain persons from Illinois, Wisconsin, Kentucky, New York, and Maryland, and that some of these representatives who have been prominent in connection with the advocacy of a certain bill opposed to the Marine-Hospital Service were given equal representation on the committee on resolutions with those of the South Atlantic and Gulf States—five members in all out of a committee of thirteen.

As an instance of the manner in which the business of the convention was managed, it need only be said that the permanent chairman of the convention was "presented" to it as its permanent chairman without even the formality of a vote, and that this chairman, selected by the self-constituted executive committee, appointed the committee on resolutions above referred to. Gentlemen who went to Mobile to read and discuss scientific papers found it was impossible to secure attention to the matter, and did not deem it worth while to present matters of that kind before a convention which was managed in the interests of public-health politics. The quotations which we made from the *Atlanta Constitution* and the *Birmingham Age* in respect to the charge that this convention was to be "packed" have unfortunately proved true, and, as only half a day out of the three-day session was given to the reading of scientific papers on the various subjects, the rest being devoted to discussion, log-rolling and wire-pulling on resolutions relating to public-health measures and the various bills before Congress, the results of this convention need not seriously engage our attention.

MINOR PARAGRAPHS.

OREXINE TANNATE IN THE ANOREXIA OF CHILDREN.

In Docent Frühwald's pædiatric division of the Vienna General Poliklinik Dr. F. Steiner (*Wiener medicinische Blätter*, 1897, No. 47; *Klinisch-therapeutische Wochenschrift*, January 23, 1898) has employed orexine tannate in more than a hundred cases of anorexia of the most varied kinds. With few exceptions, he says, the parents have reported that the children ate more under the influence of the powder than before, that children who before would not eat even under compulsion longed for food after taking the preparation. In most instances five days' use of the drug produced an appetite that lasted for a long time. As a rule, seven grains were ordered to be taken, two hours before the midday and evening meals, by children between three and twelve years old.

THE SERUM TREATMENT OF UTERO-VAGINAL DIPHTHERIA.

Croffi, of Naples (*Gazzetta degli ospedali*, 1897, No. 67; *Centralblatt für Gynäkologie*, February 5, 1898), reports a case in which, three days after a normal labor, the patient was attacked with fever. The temperature rose rapidly to 105.8° F., the vulva became œdematous, and the vaginal portion of the cervix uteri was covered with a whitish membrane. The history was that the woman had been exposed to several diphtheritic children. Seventy cubic centimetres of antidiphtheritic serum were injected gradually. The fever abated, the membrane was shed, and complete recovery took place. Löffler's bacillus was found in the cast-off membrane.

AN UNFORTUNATE RESULT OF STEAMING THE UTERUS.

In the *Centralblatt für Gynäkologie* for February 5th, Baruch, an assistant physician in Czempin's private gynæcological clinic, in Berlin, reports a case of atrophy of the uterus with occlusion of the cervical canal and apparently of the whole uterine cavity—in short a useless organ in a woman only twenty-seven years old—imputed to a single intra-uterine application of steam for the purpose of checking puerperal hæmorrhage, which it did promptly.

THE INSPECTION OF MEATS FOR ANIMAL PARASITES

This is the title of bulletin No. 19, prepared under the direction of Dr. D. E. Salmon, recently issued by the Bureau of Animal Industry. It consists of three articles, The Flukes and Tapeworms of Cattle, Sheep, and Swine, with Special Reference to the Inspection of Meats, by Mr. C. Wardell Stiles; a Compendium of the Parasites, arranged according to their Hosts, by Mr. Albert Hassall; and a Bibliography of the More Important Works Cited, also by Mr. Hassall.

THE NEW YORK ORTHOPÆDIC DISPENSARY AND HOSPITAL.

The *Thirtieth Year Book*, covering the work for the year from October 1, 1896, to October 1, 1897, is an attractive pamphlet of fifty-eight pages illustrated with a number of half-tone cuts showing different phases of life in the institution. The substance of the pamphlet consists of Dr. Shaffer's report, to which statistical tables are appended.

"EXTRAIT DE STRYCHNINE."

A correspondent says, anent our recent query "What is extrait de strychnine": "Extractum strychni is a synonym for extract of nux vomica, in fact, more generally used by Continental physicians." Undoubtedly, but what bearing has that on "extrait de strychnine?"

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 15, 1898:

DISEASES.	Week ending Feb. 8.		Week ending Feb. 15.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	8	2	12	4
Scarlet fever	150	12	188	11
Cerebro-spinal meningitis	0	0	0	0
Measles	336	11	315	11
Diphtheria	148	23	154	18
Croup	13	7	11	6
Tuberculosis	163	113	194	97

The New York Academy of Medicine's Committee on National Public Health was to report a resolution for the action of the academy at the stated meeting to be held on the evening of Thursday, February 17th.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, and plague were received in the office of the supervising surgeon general during the week ending February 12, 1898:

Small-pox—United States.

Atlanta, Ga., and surrounding	Jan. 6–Feb. 10	27 cases,	1 death.
Middlesborough, Ky	Feb. 3	7 "	

Small-pox—Foreign.

Prague, Bohemia	Jan. 15–22	11 cases.	
Pernambuco, Brazil	Dec. 1–25		8 deaths.
Rio de Janeiro, Brazil	Dec. 8–25	14 "	1 death.
Santos, Brazil	Jan. 1–8	1 case,	1 "
Hong Kong, China	Dec. 18–25	3 cases,	3 deaths.
Cienfuegos, Cuba	Jan. 23–30		3 "
Sagua la Grande, Cuba	Jan. 22–29	50 "	5 "
Liverpool, England	Jan. 15–22	1 case.	
West Hartlepool, England	Jan. 8–24	5 cases.	
Odessa, Russia	Jan. 15–22	10 "	1 death.
St. Petersburg, Russia	Jan. 8–15.	24 "	7 deaths.
Warsaw, Russia	Jan. 1–15		12 "
Corunna, Spain	Jan. 15–22		1 death.
Montevideo, Uruguay	Dec. 25–Jan. 1	1 case.	

Yellow Fever—Foreign.

Para, Brazil	Jan. 8–15		11 deaths.
Rio de Janeiro, Brazil	Dec. 11–Jan. 5	11 cases,	4 "
Santiago de Cuba	Jan. 22–29		2 "
Kingston, Jamaica	Jan. 15–22	1 case,	1 death.

Plague—Foreign.

Hong Kong, China	Dec. 18–25	2 cases,	2 deaths.

The Work of the Mobile Quarantine Convention.—The convention finally adopted the following resolutions:

"*Resolved:* 1. That it is the sense of this convention that Congress be requested to provide for a department of public health as soon as practicable.

"2. That it is the sense of this convention that Congress should enact laws to provide for an efficient maritime quarantine to be uniform and impartial in its application to the different commercial ports of this country, so as to give no one or more of them undue commercial advantage over the others, and to be enforced by the several State and municipal quarantine or health boards if they will undertake to do so, leaving also to the States the power to prescribe and enforce additional reasonable safeguards of the health of the communities, provided that such State action shall not unreasonably obstruct commerce.

"3. That Congress should aid the several States in establishing and maintaining uniform, reasonable, and efficient quarantine laws for affecting, but not regulating, interstate commerce, leaving to each State adequate power to protect, as it shall deem best, the lives and health of its people.

"4. That Congress should leave exclusively to the States the regulation of their purely internal commerce, and the provision of such quarantine or sanitary laws as they may deem advisable to that end.

"5. That, in the framing of quarantine laws and regulations, and in their enforcement, Congress should avail itself of the learning, experience, and ability of the medical profession in the fullest measure possible, and especially by way of an advisory council."

Commenting upon these resolutions, the *New Orleans Times-Democrat* remarks that the first, fourth, and fifth will be indorsed by everybody who has at heart the subject of sanitation, particularly in that phase of it which looks to the exclusion of foreign contagious disease; but it is also certain that the second and third will meet with universal and thoroughgoing disapproval outside of the convention. So weak and impotent, indeed, are these two resolutions that it is amazing, it says, they were adopted with enthusiasm by a convention possessed of so much ability and so much knowledge of the circumstances.

Concerning the second resolution, the paper says it is absurd on the face of it that federal laws should be left to local bodies to carry out; and, even if such a thing was practicable, it is certain that Congress would never agree to it. If federal quarantine legislation be enacted by federal authorities, the paper goes on to say, by federal authorities only will such legislation be put in effect and enforced; and the convention forgot itself badly when it mixed up the duties of the federal authorities and those of local bodies in such an impossible resolution.

The third resolution, says the paper, is as absurd as the second; it leaves things precisely where they stood during the recent fever visitation, and the shotgun quarantines and other middle-age arrangements of last September and October are to be allowed to flourish in the future as they have flourished in the past, if the convention has its way.

The article concludes with the remarks that the convention undid most of its good work by lending itself to two such impotent resolutions; and that unless Congress does better for the South Atlantic and Gulf States than the convention proposes that it shall do, their liability to invasions of foreign disease will not be materially lessened.

The Middleton Goldsmith Lecture of the New York Pathological Society, on the subject of The Establishment and Conservation of Purity in Public Water Supplies, especially those of Great Cities, will be given in the hall of the Academy of Medicine on Friday evening, February 25th, at 8.30 o'clock, by Professor William T. Sedgwick, of the Massachusetts Institute of Technology.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 12th inst., the following papers were to be read: Hysterectomy for Cancer of the Uterus, with a Report of a Case, by Dr. Spencer Graves; and Individual Experience in the Treatment of Pneumonia, by Dr. W. G. Moore, which was to be discussed by Dr. C. G. Crandall and Dr. J. H. Amerland.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Pathology, on Tuesday evening, the 15th inst., Dr. Ira Van Gieson was to read a paper on Toxic Degeneration of the Nervous System, which was to be discussed by Dr. Crego, Dr. Hurd, and Dr. Krauss.

The Late Dr. Thomas Evans was celebrated in the courts of Europe in other spheres than those of dentistry, says the *International Medical Magazine.* His protection and assistance of the French empress have long been known. At the time of the illness of the late Emperor Frederick, of Germany, Dr. Evans was called in because of his mechanical genius in inventing surgical appliances for the throat. He was responsible, says a writer in the London *Truth*, for a good deal of the distrust which was so openly manifested toward Sir Morell Mackenzie. The theatrical and social tastes of the latter were very repugnant to the old Quaker, and perhaps biased his views on the treatment of the unfortunate emperor.

The Mortality in Havana.—Some idea of the sanitary conditions in Havana, says the *International Medical Magazine*, may be had from the report of Dr. W. F. Brunner, an inspector of the Marine-Hospital Service. In July, the death-rate was 71.52; in August, 86.34; in September, 106.68; in October, 136.32; in November, 133 to the thousand, showing that the rate has increased rapidly despite the onset of cool weather. The rate among the Spanish soldiers is not given, but it has been estimated to be enormous, while the native troops under Gomez, living in the open country, have suffered very little from the prevailing epidemics of yellow fever and enteritis.

Mount Sinai Hospital.—Dr. Morris Manges and Dr. Nathan E. Brill have been appointed visiting physicians to the hospital.

Change of Address.—Dr. E. F. Arnold, to No. 42 West Twenty-fifth Street, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 6 to February 12, 1898:*

KNEEDLER, WILLIAM L., Captain and Assistant Surgeon, is relieved from duty at San Diego Barracks, California, and ordered to report in person to the Superintendent of the United States Military Academy, West Point, N. Y., for duty at that post.

MASON, CHARLES F., Captain and Assistant Surgeon, is relieved from duty at West Point, N. Y., to take effect upon the expiration of the leave of absence granted him, and ordered to Fort Logan, Colorado.

POINDEXTER, JEFFERSON D., Captain and Assistant Surgeon, by direction of the president, will report in person to the president of the army retiring board convened at the Army Building, New York city, at such time as he may designate, for examination by the board.

TESSON, LOUIS S., Major and Surgeon, is granted leave of absence for six months on surgeon's certificate of disability, with permission to go beyond sea, to take effect on or about February 20th.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Fourteen Days ending February 10, 1898:*

CARTER, H. R., Surgeon. To represent service at Quarantine Convention of South Atlantic and Gulf States. February 7, 1898.

WHITE, J. H., Passed Assistant Surgeon. To represent service at Quarantine Convention of South Atlantic and Gulf States. February 7, 1898.

Wertenbaker, C. P., Passed Assistant Surgeon. To proceed to Charlotte, N. C., for special temporary duty. February 9, 1898.

Perry, J. C., Passed Assistant Surgeon. Granted leave of absence for fourteen days. February 9, 1898.

Smith, A. C., Passed Assistant Surgeon. To represent service at Quarantine Convention of South Atlantic and Gulf States. February 7, 1898.

Brown, B. W., Passed Assistant Surgeon. Relieved from duty at Birmingham, Ala., and directed to rejoin station, Washington, D. C. February 7, 1898.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Two Weeks ending February 12, 1898:*

Stone, L. H., Passed Assistant Surgeon. Retired February 10th.

Society Meetings for the Coming Week:

Monday, *February 21st:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society.

Tuesday, *February 22d:* New York Dermatological Society (private); Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); Richmond, Virginia, Academy of Medicine and Surgery; Boston Society of Medical Sciences.

Wednesday, *February 23d:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Springfield, Massachusetts, Medical Club (private); Philadelphia County Medical Society.

Thursday, *February 24th:* New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Brooklyn Society for Neurology; Roxbury, Massachusetts, Society for Medical Improvement (private); Pathological Society of Philadelphia.

Friday, *February 25th:* New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *February 26th:* New York Medical and Surgical Society (private).

Births, Marriages, and Deaths.

Born.

Parham.—In New Orleans, on Tuesday, February 8th, to Dr. and Mrs. Frederick W. Parham, a son.

Married.

Butler — Sparkman. — In Magnolia, Mississippi, on Thursday, February 10th, Mr. William T. Butler and Miss Leontine Sparkman, daughter of Dr. A. P. Sparkman.

Newell — McVea. — In Baton Rouge, Louisiana, on Wednesday, February 2d, Dr. Edward Dunbar Newell and Miss Mary Virginia McVea.

Watriss — Thomson. — In Philadelphia, on Tuesday, February 8th, Mr. Frederick W. Watriss and Miss Sarah Thomson, daughter of Dr. William Thomson.

Died.

Briggs.—In Burlington, Vermont, on Friday, February 11th, Dr. George C. Briggs, aged sixty-eight years.

Cronyn.—In Buffalo, on Friday, February 11th, Dr. John Cronyn, in the seventy-fourth year of his age.

Hurlbut.—In Stamford, Connecticut, on Monday, February 14th, Dr. Lewis R. Hurlbut, in the seventy-eighth year of his age.

McFall.—In Prosperity, South Carolina, on Friday, February 4th, Dr. William T. McFall.

O'Donnell.—In New Orleans, on Tuesday, February 8th, Dr. William O'Donnell, aged thirty-eight years.

Truax.—In New York, on Wednesday, February 16th, Dr. John G. Truax, in the fiftieth year of his age.

Wheaton.—In St. Paul, on Sunday, February 13th, Dr. Robert A. Wheaton, aged thirty-five years.

Obituaries.

JOHN CRONYN, M. D., OF BUFFALO.

Dr. Cronyn, whose death is recorded elsewhere in this issue, was one of the most important members of the faculty of the Medical Department of Niagara University, the prosperity and usefulness of which were largely owing to his efforts from the very beginning of its career. He was a native of Ireland. In 1852 he took his medical degree from the University of Toronto. He moved to Buffalo in 1859. He had been president of the New York State Medical Association. He was a gentle and genial man, and the loss of him will be widely felt.

Proceedings of Societies.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Meeting of November 10, 1897.

The President, Dr. Brooks H. Wells, in the Chair.

(*Concluded from page 165.*)

The Removal of Adenoid Growths of the Nasopharynx.—Dr. Charles J. Proben read a paper on this subject. (See page 249.)

Dr. D. Bryson Delavan said that he agreed with the reader of the paper as to the use of instruments, but more should be said about the risk attending the use of the Gottstein knife. It should never be used upon a patient in the upright posture unless the finger followed carefully the course of the knife and brought away the fragment which the knife had broken off. Several cases had been reported in which the patient had been asphyxiated by the fragment falling into the larynx, causing death. With the patient in the recumbent posture one need not be afraid of this. The shape of the instrument should be so arranged as to include all of the growth by one or two sweeps. The sharp edge of the Gottstein knife caused more bleeding than the tearing process. If the child was operated on without anæsthesia it was not possible to make more than one or two sweeps of the knife at one sitting. As to the use of the finger, there was a difference in the finger nails of different persons; there was also a difference in the growths, which were often tender and friable, but were sometimes fibrous to such a degree that the finger alone would not remove them. The finger was sometimes very useful, however, especially when accompanied by the use of other instruments. The question of anæsthesia had long been settled. In 1877 he had begun to operate on these growths, and for nine years without anæsthesia. He dreaded to see patients requiring operation come into his office. In 1888 the late Dr. Franklin H. Hooper, of Boston, had returned from

England with the news that it was possible to remove adenoids under anæsthesia. Since then these operations had been a pleasure instead of a hardship. As to the anæsthetic, under an expert anæsthetist ether could be given with as little irritation to the patient as chloroform. The use of chloroform was confessedly more dangerous than that of ether, and if the latter was administered with proper care by an experienced, clever, and tactful assistant, it would not irritate the child any more than chloroform would. He had used chloroform almost exclusively for two years, and in that time had operated upon a large number of patients, but had abandoned it a number of years ago in favor of ether. He preferred either ether or nitrous oxide to chloroform. Cocaine anæsthesia was generally insufficient. The thorough removal of the growth was of great importance, and in using anæsthesia more complete work could be done. He spoke of a rhinoscopic examination as being particularly helpful, as one could gain a certain amount of information by the rhinoscopic mirror which one could not do with the finger. As to the use of the finger, it should be introduced into the pharynx of the child with great care. The nail should not be ragged, the finger should be carefully washed in warm water, and care should be taken not to induce choking.

Dr. Walter B. Johnson spoke of a case that he had seen recently, in a child eight or nine years old, whose mental apparatus seemed to be disturbed as the result of the adenoid growths. The adenoids were still there and the parents declined to have any operative procedure resorted to. The child was partially deaf; breathed through the mouth, and could not breathe through the nose at all. He believed that the adenoids had been at the bottom of the trouble. He thought the points in relation to the difficulty of the operation and the possible dangers of the upright posture had been well suggested by Dr. Delavan. As to an anæsthetic, he preferred ether to chloroform.

Dr. T. Merrigan demurred at calling a certain posture Rose's posture, as Dr. James Kelly had used that posture for a great many years. He did not believe that any posture should be called by a man's name.

Dr. Rupp said that a great many cases were not bad enough to obstruct respiration or to interfere with any physical or mental development, but were sufficiently deleterious because they kept up catarrhal and purulent conditions of the ears, which could be treated all the more readily after the adenoids were removed. He referred to a forceps modified by Dr. Joseph H. Bryan, of Washington, which made the operation simple, and, by virtue of its construction, prevented any of the removed growth from slipping into the larynx. The instrument was made by Messrs. Tiemann & Co.

Dr. Delavan said, in regard to hæmorrhage, that the reader of the paper had referred to several cases. Some of these had been in hæmophilic subjects, and he thought most of them had been secondary, coming on some hours after the operation.

Dr. Proben said that, owing to lack of time, he could not take up the symptomatology of the adenoids. He incidentally referred to the great danger of these growths if they were not removed, often forming a starting point for tuberculosis. In regard to the examination by the finger, he agreed with Dr. Delavan that it should be introduced laterally. The Gottstein curette should be guided into the nasopharynx by the finger, and was a very useful instrument. If the finger nail was strong, one could accomplish a great deal by curetting, especially in early childhood. As to anæsthetics, he had found ether irritating to the larynx, no matter how slowly and carefully it was given. Chloroform could be given in small quantities; the patient succumbed very quickly, and was easily aroused. With ether it was very difficult to rouse the patient. If at any time hæmorrhage or laryngeal obstruction should occur and one wished to rouse the patient very quickly, much valuable time might be lost. Probably, in very large children ether would be safer, but in early childhood and in infancy chloroform should be given the preference. He had not referred to any effects on the mental condition; but the point he wished to make was that the adenoids could not be properly removed, unless under anæsthesia, without expectation of a future recurrence.

Book Notices.

Le torticollis et son traitement. Par le Dr. P. Redard, Ancien chef de Clinique chirurgicale de la Faculté de médecine de Paris, etc. Paris: Georges Carré et C. Naud, 1897. Pp. iii–250. [Prix, 6 frs.]

All the phases of this affection, from ætiology to treatment, and including its history, are dealt with in this book in a very interesting and readable manner. Its history, naturally, calls for but a brief mention. The ætiology, and especially the ætiology of those forms of torticollis which are still debatable ground, is treated at length. According to the opinions of such German authorities as Stromeyer, Trendelenburg, Busch, Volkmann, and others, pure congenital torticollis does not exist in the sense that most French and American authors believe it to exist. Their ground for this opinion is that the majority of such cases are obstetrical, caused by a traumatism to the sterno-cleido-mastoid muscle, rupture of that muscle, injury to the nerves of the neck by the forceps, or twisting of the neck in the process of delivery, the hæmatoma so caused being the immediate cause. The author, on the other hand, having observed twelve cases of hæmatoma in the course of two years, has been unable to determine the existence of a single case of torticollis due to this cause. The supporters of the existence of a pure congenital torticollis—namely, the formation of such a condition *in utero*—have brought forward numerous theories to account for it, among which are: 1. Abnormal position of the neck of the fœtus due to pressure from lack of amniotic fluid and diminution of the uterine cavity. 2. Abnormal position of the fœtus from amniotic adhesions. 3. Rupture of muscles and muscular inflammations, or muscular neuroses from alteration in the nerve centres. 4. An arrest of development of one side of the face. The coexistence of other congenital defects is frequent, such as clubfoot, harelip, congenital dislocation of the hip, absence of the radius, etc. The frequency of torticollis called congenital depends entirely on whether the observer is of those who believe in the theory of the obstetrical origin of the deformity or of the other class.

In the chapter on symptoms the marked variety in the position of the head is carefully considered. In regard to the cases of so-called rheumatism of the trapezius, the author is of the belief that in most instances the contraction of the trapezius is secondary to a polyarthritis of the cervical vertebræ. The inclination of the head backward is marked in those cases where the trapezius is the only muscle affected.

In the treatment of the chronic congenital variety the author believes in early operation. He cites two cases in which he operated with success as early as the second year. Over-correction of the deformity he does not insist on, though the subsequent treatment with massage, gymnastics, exercises, etc., he considers of importance.

A Way that Seemeth Right. An Examination of Christian Science. By H. Martyn Hart, D. D., Moderator and Medalist in Experimental and Natural Science, Trinity College, Dublin, etc. New York: James Pott & Co., 1897. Pp. 111.

In view of the reported gift by Mrs. Mary B. G. Eddy, author of *Science and Health, with Key to the Scriptures*, to the Boston Christian Scientists, and also in view of the advertised prosperity of this cult, Dean Hart's book will be read with more than usual interest.

As an *examination of Christian Science* this little volume treats of the subject more particularly from the standpoint of the theologian, although it does not omit consideration from the medical point of view. In a concise and able manner, by the methods and with the authority of one whose profession it is to expound the truths of the accepted standard of Christian belief, the author refutes the theory of Mrs. Eddy, and, notwithstanding her allegation of revelation for the theory in question, he is none the less firm and lucid in contesting the tenets of this sect.

In discussing the subject of "healing" and "cures" in general, the author acknowledges and explains instances of "faith-cures" in cases of functional disturbance, but lays stress upon the utter lack of evidence of cures where there has been known to exist organic change, either from traumatism, microbic infection, or other cause. The cures themselves are explained on the hypothesis of the beneficial effects of mental passivity and suggestion in some functional disorders. Interesting reference is made to Schlatter's cases, authentic stigmata, hypnotic therapeutics, and other so-called miraculous cures outside the domain of Christian Science, and attention is drawn to Mrs. Eddy's unscientific view of hypnotism and the unwillingness of the exponents of the cult to put their theories to the test of surgical practice, although professing, as Mrs. Eddy does, to have effected "cures" in cases of dislocation of vertebræ and other bones. The absurdity of the obstetrical advice in *Science and Health* is demonstrated, and a plea for State regulation of Christian Science practice is suggested.

The volume closes with a criticism of this gospel, whose object is the amelioration of man's condition, as compared with the accepted gospel of Christendom. In this comparison *Science and Health* appears as an attempted demonstration of an empty ethical hypothesis, consisting of imaginary premises and deductions, clothed in meaningless phraseology, and hopelessly supported by specious argument and arbitrary platitudes.

Bibliographischer Semesterbericht der Erscheinungen auf dem Gebiete der Neurologie und Psychiatrie. Von Dr. med. et phil. G. Bushan. Dritter Jahrgang, 1897. Erste Hälfte. Jena: Gustav Fischer, 1897. Pp. 172. [Preis, 4 Marks, 50 Pfennig.]

We are glad to welcome the present volume, which ushers in the third year of Dr. Buschan's undertaking, and to be able to recommend it again to our readers as an exhaustive and accurate index of neurological literature.

The Student's Guide to Medical Diagnosis. By Samuel Fenwick, M. D., F. R. C. P., Consulting Physician to the London Hospital, and W. Soltau Fenwick, M. D., B. S. Lond., M. R. C. P., Physician to the London Temperance Hospital, etc. Philadelphia: P. Blakiston, Son, & Co., 1897. Pp. xxxii–468. [Price, $2.50.]

This manual is again brought to our notice, in its eighth edition, at the end of twenty-eight years of usefulness. Although it has been almost entirely rewritten, the changes and additions that appear in no way alter the practical character of the book, and those methods of diagnosis which require special training or complex apparatus have been but slightly dwelt upon.

Each chapter has been prefaced by a brief summary of the pathology of the principal diseases that affect the organs discussed in it, and nearly all the old illustrations of microscopical appearances have been replaced by those from more recent observations. The newer methods of diagnosis have received attention, but all discussion of unsettled points seems to have been carefully avoided. In its aim and general arrangement, therefore, the book seems to be unchanged, and the new American edition will doubtless find many friends on this side of the water.

Les localisations des fonctions motrices de la moelle épinière. Par le Dr. Fritz Sano. Anvers: J.-E. Buschmann, 1898. Pp. 6 to 40.

This brochure, which is extracted from the Annals of the Medico-surgical Society of Antwerp, gives such information regarding the localization of motor functions of the spinal cord as may be found in any reliable text-book on nervous diseases.

BOOKS, ETC., RECEIVED.

Sexual Neurasthenia (Nervous Exhaustion); Its Hygiene, Causes, Symptoms, and Treatment. With a Chapter on Diet for the Nervous. By George M. Beard, A. M., M. D., formerly Lecturer on Nervous Diseases in the University of the City of New York, etc. Edited, with Notes and Additions, by A. D. Rockwell, A. M., M. D., formerly Professor of Electrotherapeutics in the New York Post-graduate Medical School and Hospital, etc. Fifth Edition, with Formulas. New York: E. B. Treat and Company, 1898. Pp. xii–13 to 308.

Studies in the Psychology of Sex. Volume I. Sexual Inversion. By Havelock Ellis. London: The University Press, 1897. Pp. xvii–204.

The Diseases and Injuries of the Conjunctiva, especially the So-called Granulated Lids. By John H. Thompson, M. D., Professor of Ophthalmology and Otology, Kansas City Medical College, Kansas City. First Edition. With Illustrations. Kansas City: Hudson-Kimberly Publishing Company, 1897. Pp. 6 to 216.

Sir James Young Simpson and Chloroform (1811–'70). By H. Laing Gordon. New York: Longmans, Green, & Co., 1898. Pp. xii–233.

Christian Greece and Living Greek. By Dr. Achilles Rose. New York: *Peri Hellados* Publication Office, 1898. Pp. xiii–300.

Transactions of the Royal Academy of Medicine in Ireland. Volume XV.

New York Post-graduate Hospital. Thirteenth Annual Report of the Directors for the Year ending October 1, 1897.

State of New York. First Annual Report of the Forest Preserve Board. Transmitted to the Governor, January 29, 1897.

Official List of Commissioned and Non-commissioned Officers of the United States Marine-Hospital Service; also List of United States Marine Hospitals and Quarantine Stations. July, 1897.

Seventh Annual Report of the State Board of Medical Examiners of New Jersey. 1897.

The Early History of the New Hampshire Medical Institution, with a Sketch of its Founder, Nathan Smith, A. M., M. D. Being an Introductory Lecture to the Eighty-third Course of Medical Lectures at Dartmouth College. By Oliver P. Hubbard, M. D., LL. D.

Cough due to Lesions of the Nose and Throat. By Willis S. Anderson, M. D., of Detroit. [Reprinted from the *Medical News.*]

Brief Review of my Last Year's Work in Abdominal Surgery and Vaginal Hysterectomy. By William W. Taylor, M. D., of Memphis. [Reprinted from the *Memphis Medical Monthly.*]

Melanosarcoma of the Conjunctiva, with a Report of a Case. By Albert Rufus Baker, M. D., of Cleveland. [Reprinted from the *Journal of the American Medical Association.*]

Electric Treatment in Gout and the Uric-acid Diathesis. By Robert Newman, M. D. [Reprinted from the *Medical Record.*]

The Modern Management of Diphtheria and Croup Cases. By Augustus Caillé, M. D. [Reprinted from the *Post-Graduate.*]

Clinical Pictures of Children's Diseases. The Diarrhœas of Children. By Langford Symes, M. R. C. P. I., of London. [Reprinted from the *Dublin Journal of Medical Science.*]

Miscellany.

The Use of Oil for the Destruction of Larvæ in the Nasal Chambers.—In the *Laryngoscope* for February Dr. W. Scheppegrell remarks that he has for a long time realized that the majority of drugs intended to destroy these larvæ in the nasal chambers are inefficient, as these insects are able to tolerate much stronger solutions than can be borne by the nasal mucosa. One substance, however, he says, which destroys by occluding the respiratory organs of the insects, and is innocuous to the human tissues, is oil, such as sweet oil, liquid vaseline, etc. Respiration is carried on by an intricate system of tubes (pulmonary tracheæ) which open by pores (spiracles or stigmata) in the sides of the body, and these are blocked by the free use of the oil, thus causing suffocation.

Dr. Scheppegrell alludes to a case in which the patient had suffered for a long time from fœtid atrophic rhinitis of a marked character. A few days before examination a severe pain occurred in the nostrils, with a fœtid discharge, which, on inspection, was found to be due to the presence of larvæ of the meat fly. The history indicated that the eggs had been deposited while the patient was sleeping in the open air.

In this case, says the author, the oil used, glymol, acted with much success. It was first applied in the form of a continuous spray, and was successful in dislodging a considerable number of the larvæ at the first sitting. At the second sitting it appeared that there was a number of larvæ in the upper region of the nostril which could not well be reached, and, with a view of effecting this, the patient was placed in the horizontal dorsal posture with the head hanging down, and the nostrils were then completely filled by pouring the warm oil into the nasal cavities. This method was apparently successful in destroying all the larvæ in four sittings. A week later, however, another sitting was required, which resulted in dislodging two more of the larvæ, after which there was no further evidence of these parasites.

As this method is successful in destroying the larvæ without the least irritation of the delicate structure of the nasal chambers, says Dr. Scheppegrell, it should be added to the therapeutics of this subject.

The Indian Hookah: a Real Sanitary Smoke.—In the *Indian Medical Record* for January 1st Dr. T. Morton, of Mussoorie, writes as follows: "The question is often asked by patients, and as often answered evasively by consultants, Which is the best smoke? To smokers in general it is of supreme importance to possess this knowledge. For a perfect smoke three elements are necessary: The absence of (*a*) heat, (*b*) products of combustion of tobacco, acrid matters, and carbonaceous compounds, (*c*) nicotine. A variety of pipes have been invented to obviate the latter two, but heat has always defied pipes. Cigars, cigarettes, and pipes, so long as they are smoked in this world, will always produce it. In a *hookah* we have an ideal smoke, and, though prejudice may retard its popular use for a time, it will hold its own against all competitors. The time is not far distant when all Europeans in India smoked their *hookah* without being ashamed of it. I remember some old military officers only a few years back indulging in their cool *hookah* and inviting their friends, just as the better classes of Hindus and Mohammedans do now, to sit down and have a pull at the *hookah*. An old officer, now over ninety-eight years, tells me that in the early days of John Company every officer had his 'abdar' who looked after the *hookah*, and after dinner was over at mess produced the graceful and sometimes bejeweled *hookah* to adorn the table. It is fashionable at present to depreciate everything Indian, and yet when we examine minutely the details of Indian custom and civilization, all are, as a rule, lost in admiration of the wonderful forethought, utilitarianism, and sanitary wisdom of those ancient people of a bygone age who were the code-manufacturers and lawgivers of this land.

"The Turkish *narghelia* is an elegant modification of the *hookah*, and I strongly recommend every smoker to invest in one, till such time as he can reconcile himself to a *hookah* with a long, elastic, and coiled-up stem. When he reaches this stage, he will bless the *hookah*. He will enjoy the coolest and least harmful of smokes, and he will smoke less on the whole. The cigarette for various reasons is the most injurious and most indulged in. An ordinary cigarette smoker burns up at least twenty a day, with the result that his throat is as raw as a beefsteak in the morning, and drier than a bone. If he is given to lifting his little finger, after every two or three cigarettes, there is a strong temptation to have a peg. He might drink water, but as modern literature warns him that there are thousands of bacteria in it, he generally goes in for a whisky-and-soda. I have come across numerous cases of pharyngitis and a few of laryngitis in inveterate cigarette smokers. Besides, in some cigarettes there is a quantity of opium also. After a few puffs of these, the smoker either feels giddy or sickish, and he attributes the effect to nicotine. It is nothing of the sort. It is pure and simple opium-smoking with its baneful results, emaciation, palpitation, dyspepsia, etc. The most scientific as well as the most ancient smoke is the *hookah,* and I strongly urge every one who has the courage to fight fashion and prejudice, to invest in one *at once.*"

A Case in which Vomiting occurred for Eighteen Years.—The following remarkable case is reported by Mr. H. G. H. Naylor in the *Australasian Medical Gazette* for December 20th: The patient was a woman forty-four years old. She told the author she had been vomiting her food at irregular intervals daily for eighteen years, and that she had been under treatment most of the time without success. Lately the vomiting had been more frequent. There was no neurotic history anywhere in the family.

The author decided to wash out the stomach daily with a weak solution of sodium bicarbonate, and then with a solution of boric acid. Large quantities of mucus came away, and the vomited matter consisted of a pint and a half of mixed mucus and food partly digested. Simple stricture of the pylorus was suspected, but no perceptible dilatation was observed. For three months the patient remained in bed. She was fed systematically with peptonized food, and the stomach was washed out daily. The vomiting went on, however, and the author believed and suggested to the patient that there was an obstruction at the farther end of her stomach which prevented the food from passing into the bowel. Repeated examinations revealed no dilatation. Under the microscope there was nothing to indicate any special condition, and no sarcinæ were present at any time.

The patient grew very much thinner, and the author told her she must be operated upon, as she was starving to death. Through the attenuated abdominal wall Mr. Naylor thought he felt an indurated pylorus. The patient passed one small stool every fourth or fifth day; her pulse was very feeble, and she became dizzy when she stood up.

At this time, says the author, Dr. Wolfhagen saw her. He confirmed the diagnosis of simple stricture of the pylorus, and thought he could make out dilatation in the left hypochondrium. The patient was then prepared for operation, put in bed, and given peptonized nutrient enemata consisting of an ounce and a half each of peptonized beef tea and milk and two drachms of brandy, night and day, for two weeks; the enemata were given every two hours.

Preparations were made for abdominal section, and a hypodermic injection of a quarter of a grain of morphine and a sixtieth of a grain of strychnine was given fifteen minutes before the chloroform was administered. After anæsthesia was obtained, the author opened the abdomen in the middle line for five inches, the incision extending from half an inch below the ensiform cartilage to half an inch above the umbilicus. There was very little bleeding, and it was stopped by the application of pressure forceps.

After opening the parietal peritonæum the author introduced his hand into the abdomen, felt for the pylorus, and found it deep down and firmly adherent to the liver; the stomach was empty, flaccid, and not at all enlarged. The author tried to draw the stomach out into the wound, but could get it only slightly forward, as it was tied down by adhesions to the bowel below. The author separated these adhesions, liberated the greater part of the stomach, and brought the greater portion fairly into view, but he could not move the pyloric end, as it was firmly adherent to the lower surface of the liver.

Mr. Naylor states that he felt that his diagnosis had been wrong, and to make quite sure he opened the stomach by a vertical incision, carefully avoiding the blood-vessels, which were distinctly visible. No hæmorrhage whatever occurred, only a slight oozing, which the sponges absorbed. He passed his finger along toward the pylorus and through it into the duodenum without finding any trace of a stricture. The mucous membrane, on examination, was found to be much healthier than had been expected. The stomach wound was then sewed up with some difficulty, as it had been made almost inside of the abdomen.

Mr. Naylor states that he was somewhat disheartened at his failure in diagnosis; however, it occurred to him that the cause of the vomiting might perhaps be the adhesions which tied the stomach down above and below, and produced tightening or constriction of the pylorus. Therefore, he very carefully separated all the lower adhesions so as to free the stomach below, thinking that if the stomach was free, although the adhesions to the liver were left alone, the vomiting would stop, and the result, he says, shows he was right.

All the blood was carefully removed from the abdomen and the wound stitched up and dressed with iodoform gauze and powdered iodoform, an absorbent wool pad, a few strips of Mead's plaster, and a combined flannel and calico bandage firmly applied. The whole operation occupied about two hours. The patient stood the anæsthetic very well, and no collapse occurred at any time, an advantage which the author attributes to the morphine and strychnine hypodermic.

The patient made a rapid and uninterrupted recovery, although during the first four days the vomiting was troublesome until the morphine hypodermics were stopped. The highest temperature was 99° F. and the lowest 98.2°. The day after the operation the patient took ice and iced milk, half an ounce at a time, every hour, and the nutrient enemata were given as before. On the fifth day the nausea stopped, more food was given by the mouth, and the enemata were employed less frequently, as the anus was becoming sore. After the sixth day three ounces of milk, Benger's food, peptonized chicken broth, and calf's-foot jelly were given every two hours by the mouth, and after the ninth day four ounces every two hours, so that the patient averaged two pints and more of nourishment a day from the sixth day after the operation. She has had no nausea since the fifth day and has had a copious motion daily since then. On the ninth day the stitches were removed from the abdominal wound, as it was quite healed. On the twelfth day she was put on a couch and wheeled out on to the veranda.

The author states that he has given her daily a hypodermic injection of a hundredth of a grain of strychnine with remarkably good effect on the bowels and general vigor. Her tongue has been perfectly clean since the ninth day, and she appears to be quite cured.

Mr. Naylor has no doubt that the real cause of the vomiting of such an intractable nature was the existence of the adhesions, and the result, he thinks, justifies him in this conclusion. He also thinks that many other cases of obstinate vomiting may be cured in this way, and he questions whether there may not be many cases of distressing dyspepsia due to some cause of this kind, which remain incurable because abdominal section only will reveal the condition. Mr. Naylor is of the opinion that the patient would have died of starvation if he had not made a mistaken diagnosis and decided to do pyloroplasty, as it is quite impossible, he says, for any human being to diagnosticate adhesions of the abdominal organs by mere palpation or auscultation.

When Should a Transverse Fracture of the Patella be treated by Wiring?—In a long article on this subject in *Treatment* for Thursday, January 27th, Mr. Payton T. B. Beale discusses the various conditions in which this operation may be performed, and reaches the following conclusions: Blood in the knee joint, acting as a foreign body, sets up the earliest stage of inflammation in the synovial membrane, previously healthy. This stage consists of three conditions: 1. Dilatation of the blood-vessels and an increased blood flow. 2. Slackening of the rate of the blood flow. 3. Stasis and exudation. If the joint is opened during the first two conditions, any septic organisms which happen to fall upon the synovial membrane will probably grow and multiply; that is, the tissue will not be able to overcome and destroy them. If the joint is opened during the third condition, and organisms gain access, they may be washed away and destroyed, or they may, on the other hand, be merely removed to some adjacent part, where they may flourish and so infect the entire synovial membrane.

If a knee joint with blood effused into it, continues the author, is kept at rest and under the influence of cold by means of a nearly straight splint and an ice-bag or evaporating lotion, this earliest inflammatory stage with its three conditions will gradually subside as the blood becomes absorbed. The third condition is probably the one best adapted to bring about the absorption of the effused blood. The synovial membrane will then return to its normal healthy state if all the blood is absorbed, and it may do so even if some blood remains unabsorbed, the membrane becoming tolerant of that which remains; the joint may then be opened with no more risk than that which attends the opening of a joint, the synovial membrane of which has not passed through an early inflammatory stage.

Mr. Beale considers that the excessive risk which, according to some surgeons, attends the opening of the knee joint in order to wire a fractured patella is due, in some measure, to the unfortunate results which have attended the entrance of septic organisms when the operation has been performed before the effused blood has been wholly absorbed.

The operation should, therefore, he says, be performed immediately after the fracture has occurred only when the two following conditions can be observed together—namely, that blood has not begun to be effused and that no direct violence has been applied to the part.

It is, therefore, clear that in the great majority of cases which are otherwise suitable for wiring the operation should not be performed for some time after the fracture has occurred.

Of course, theoretically, continues Mr. Beale, the conditions obtaining during and after any operation ought to be such as would absolutely preclude the entrance of any septic organisms into a wound; but it must be admitted that such conditions can not always be insured, and there is no doubt that a few septic organisms do gain access to wounds occasionally, if not frequently, but they are so few that the phagocytes are able to cope with them. They will almost certainly cope with them in a healthy tissue, but they may not be capable of doing so in a tissue which is the seat of early inflammatory changes.

The next points in considering the suitability of a case for wiring, the author goes on to say, are the occupation and age of the patient. It seems to him that age, *per se*, needs to be considered only in relation to conditions of impairment of health which may retard or prevent the repair of wounds generally and the union of bone in particular. If a healthy man of sixty-five, or even seventy, was suffering from a compound fracture of a long bone, the treatment of the fracture would be the same as that in a healthy youth of sixteen; and if he had a transverse fracture of the patella, and his occupation was such that it required the free use of the lower limbs, why, asks Mr. Beale, should he not be given the opportunity of regaining the full and necessary use of the limb? The occupation, then, is much more worthy of consideration than the age. If the occupation by which the patient earns his bread is such as requires the free and full use of the lower limb, this must be dependent upon the patella being bony throughout, and the patient should be advised to have a transversely fractured patella wired, this being the only *certain* method of securing true bony union. A man whose work required his continually and rapidly getting into and out of a light cart could not perform his duties unless his patella was bony throughout.

If, on the other hand, the occupation does not require such activity, the patient should not be *advised* to have his patella wired, but should be allowed to decide absolutely for himself, the principle of wiring, and subsequent complete and bony union, being described to him, and the risk, in competent hands, being described as not greater than the risk incurred in performing most other operations.

The Crossed Femoral Reflexes in Epileptics.—Shock to the patellar tendon, says a writer in the *Journal des praticiens* for January 29th, sometimes determines in animals and in man a reflex discharge which is produced in the muscles of the thigh of the opposite side, occasionally even when the side struck does not respond. This crossed femoral reflex movement may be produced in the extensors or in the adductors.

M. Féré, after a few investigations in a series of cases, was led to believe that there was a great frequency of crossed femoral reflexes in epileptics, but more numerous explorations reduced this frequency. Generally the crossed femoral reflexes have been found equally on both sides, except in one case in which they predominated on the left side, although the patellar reflexes were equal and there was no trace of paralysis. More frequently the crossed femoral reflexes were coincident with an intense patellar symptom; but they may be coincident with a moderate patellar symptom.

The existence of the crossed femoral reflexes seems to to signify an exaggeration of the reflex tendency. In fact, if hemiplegics with contraction are examined, the reflex will often be found exclusively on the hemiplegic side (provoked by the shock on the patellar tendon of the healthy side). In fourteen subjects with infantile hemiplegia five, who had chorealike movements, did not present the crossed reflex; the nine others did. In one, who had, however, epileptoid trembling, it was bilateral. Six times the adductor reflex only was found, twice the extensor reflex only was found, and once only the extensor and the adductor reflexes existed at the same time.

A Case of Epilepsy Successfully treated for Eight Years with Antipyrine and Sodium Salicylate.—The following case, which came under the observation of Dr. William Pepper, is reported by Dr. J. Howe Adams in the February number of the *Southern Practitioner:* Fifteen years ago Dr. Pepper was called to see a business man who had found, on awakening several mornings from time to time, that his night clothes were stained with blood around the neck, and that his tongue was cut and swollen. Unknown to the man, he was watched and it was soon found that he was suffering from a nocturnal type of epilepsy which had developed quite late in life. Under treatment with the bromides he grew worse if anything. On studying his case, Dr. Pepper determined that the nights on which these convulsions occurred could be predicted, for they invariably followed an upset condition of his stomach and liver. The evening before a convulsion occurred the patient would complain of gastro-intestinal trouble, his tongue would be coated and his breath heavy. By regulating the diet, and especially avoiding heavy food at night, making the evening meal a very scanty one, a marked improvement was produced, although the convulsions continued from time to time. In seeking remedies which would control the convulsions, Dr. Pepper finally directed the patient to take antipyrine and sodium salicylate. This was about eight years ago, and for the last three years he has not had a convulsion, while during the previous five years they had occurred with less and less severity and regularity.

Röntgen Rays in the Treatment of Lupus.—The *Archives d'électricité médicale, expérimentales et cliniques* for January contains an account of two cases which came under the observation of M. Schönberg. The first case was that of a young man who had been perfectly healthy up to the day on which he had been attacked with the disease. This was in January, 1895, and he was treated in the ordinary manner with scraping, iodoform, cauterization, nitric acid, etc. In 1896 the patient was treated with tuberculin in small doses without any appreciable results.

In March, 1896, the Röntgen-ray treatment was begun, and carried out in the following manner: The patient was stretched out on a table, and a tin mask was put over the entire portion of the face which was not affected by the disease. A cap of the same metal also covered the head. The tube was placed at a distance of twenty-five centimetres [about a foot] from the face, and the bobbin received a current of twenty volts and five ampères. The duration of the exposure every day was from twenty to thirty minutes. On the 4th of April, seventeen days after the beginning of the treatment, the exposed surface showed a very distinct reaction and redness, and on the 8th the dermatitis was generalized. From this moment the ulcerated portions yielded gradually and recovery regularly occurred.

In the second case, that of a woman forty-eight years old, the treatment was carried on in the same manner with equally satisfactory results.

The writer thinks that these two cases are interesting not only because of the results obtained, but also because they demonstrate what a satisfactory therapeutic action the Röntgen rays may produce when they are wisely employed.

The Columbus (Georgia) Academy of Medicine, according to the *Atlanta Medical and Surgical Journal,* has elected the following officers for the year 1898: President, Dr. George J. Grimes; vice-president, Dr. T. E. Mitchell; secretary and treasurer, Dr. Charles D. Wall.

The Medical Society of the District of Columbia.—We learn from the *North American Medical Review* that officers for the ensuing year were elected on January 3d as follows: President, Dr. Samuel C. Busey (re-elected); vice-presidents, Dr. C. W. Richardson and Dr. G. M. Kober; corresponding secretary, Dr. Thomas C. Smith; recording secretary, Dr. S. S. Adams; treasurer, Dr. C. W. Franzoni; librarian, Dr. E. L. Morgan; censors, Dr. C. W. Richardson, Dr. John T. Winter, Dr. W. B. French, Dr. C. H. A. Kleinschmidt, and Dr. G. N. Acker.

Salipyrine in the Treatment of Influenza.—Békéss (*Wiener medicinische Presse,* August 15, 1897) remarks that the treatment is mostly symptomatic. In the beginning, as in all infectious diseases, he gives a laxative, preferably calomel, in doses of from two to five grains for adults (one tenth the amount for children). The calomel is divided into three powders, given at intervals of an hour. As long as the fever lasts, rest and a fever diet are indicated. Formerly he gave internally, three or four times daily, three grains of quinine, four grains of acetanilide, from ten to fifteen grains of antipyrine, and from ten to fifteen grains of sodium salicylate.

Since 1890, however, he has used salipyrine almost exclusively, not only in influenza, but also in ordinary catarrhal affections, rheumatism, and neuralgia. He prescribes as an evening dose fifteen grains (seldom twenty to thirty grains), and as a morning dose generally half that amount, although at times he gives from ten to fifteen grains. For children he prescribes from one tenth to half these doses, according to age. He has never noticed any unpleasant after-effects from its use, and has never been compelled to resort to larger doses than those mentioned. With this remedy he has obtained, without a doubt, the best results, and now and then they have been almost phenomenal in character. He has noticed, like von Mosengeil, that the use of salipyrine must be continued for some time in order to achieve a good result. He prescribes ten grains at night for from three to five days after the fever has disappeared. Even after the temperature has fallen to the normal the patient should be confined to his room for a number of days. The complications are to be treated by the usual accepted methods of therapeutics.

The New York Academy of Medicine.—At a stated meeting of the Section in Orthopædic Surgery, on Thursday evening, the 17th inst., Dr. T. Halsted Myers was to read a paper on Non-tuberculous Inflammations of the Spine: Syphilitic, Rheumatic, Malignant, Gonorrhœal, Typhoid Infections, and Traumatic, which was to be discussed by Dr. R. W. Taylor, Dr. L. B. Bangs, Dr. C. C. Ransom, Dr. N. M. Shaffer, Dr. V. P. Gibney, Dr. W. R. Townsend, Dr. G. E. Brewer, Dr. R. Whitman, Dr. S. Lloyd, Dr. R. H. Sayre, Dr. S. Ketch, and others.

At the next meeting of the Section in Ophthalmology and Otology, on Monday evening, the 21st inst., the following papers will be read: Remarks on the Histology of Xanthoma Planum Palpebrarum, with a demonstration of specimens, by Dr. S. Pollitzer; Remarks on Pneumococcus Infection of the Conjunctiva and Cornea, by Dr. W. H. Holden; and Future of the Cornea after Removal of the Lens, An Experimental Study, by Dr. W. H. Bates. Dr. W. B. Marple and Dr. A. Jacobi will present cases.

At the next meeting of the Section in Laryngology and Rhinology, on Wednesday evening, the 23d inst., the following papers will be read: A Report of an Operation for Adenoids resulting Fatally, by Dr. C. H. Knight; and Forceps and Curette for the Removal of Adenoids, by Dr. Walter F. Chappell. Cases will be presented by Dr. T. B. Berens and Dr. J. W. Gleitsmann.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 24th inst., Dr. Sara Welt-Kakels will read a paper on Pregnancy in Women with Uterus Duplex, with a Report of a Case. Patients will be presented and instruments and specimens will be exhibited.

The late Dr. Thomas W. Evans, of Paris.—The *Ohio Dental Journal* for February publishes the following:

At a special meeting of the American Dental Club of Paris, held at the office of its president, Dr. C. C. Daboll, on Saturday evening, December 11, 1897, the following resolutions were unanimously adopted:

Whereas, By the sudden death of Thomas W. Evans, M. D., D. D. S., Ph. D., which occurred at his home, in Paris, Sunday evening, November 14, 1897, this club loses one of its most assiduous members, and the profession one of the most remarkable men that ever graced its ranks—therefore be it

Resolved, That the American Dental Club of Paris deeply deplores the death of so eminent a colleague, who, as its first president, and as a fellow-member, ever alert to the interest of the club and the profession, always commanded the profound respect of all.

Resolved, That we, as a body of American dentists whose lot by various circumstances has fallen in a foreign land, while gratefully acknowledging the hospitality of our sister republic and our gracious adoption by her people, feel it but just to acknowledge our gratitude to Dr. Evans, who, as one of the great pioneers of the dental profession, has done so much to break down old prejudices and prepare the way, not only for us, but for every dentist whose heart is in his work, and whose object is to benefit mankind.

Resolved, That we regard his success in securing the recognition of all the nations of Europe of the beneficence of dental science and art as first understood and practised in America as of the greatest importance to the public, as well as to the dental profession. That influence was strongest during the first twenty-five years of his practice, during the plastic period of the evolution of dental science so especially active in America. On account of his influence in the highest circles, the way has been made easier to convert conservative Europe to modern methods of conservative dentistry, and not only every member of this club and every American dentist of Europe, but every native dentist as well has been benefited by that influence. And we believe, above all, by the adoption of modern methods, such a stimulus has been given to *all* dentists of *all nationalities* as will one day render dental science a *universal* and not merely a *national* science, as it was during a great portion of Dr. Evans's career.

Resolved, That, while we recognize the influence of others of his contemporaries, he played a principal rôle, owing to the peculiar position brought by his unparalleled success, such success being due to his personal magnetism, high-mindedness, affability, practical common sense, and tact.

Resolved, That this club regards the numberless honors conferred upon Dr. Evans by the various sovereigns of Europe as the just tokens of appreciation of the dental profession through one of its great representatives, and it is proud that he was an American and proud he was a member of this club. And, notwithstanding his pecuniary success, his unlimited honors, and his long sojourn away from his native land, we know that, while being faithful to his duties in foreign lands, his loyalty and affection for his own country never diminished. He was first, last, and always a dentist, and proud to be considered one, and despised that *snobism* which makes some men ashamed of the profession to which they owe all their success in life.

Resolved, That we believe the name of Dr. Thomas W. Evans deserves a place with other great names in the history of the development of dental science.

Resolved, That our sympathy be extended to the relatives and friends of Dr. Evans, that a copy of these resolutions be handed them, and that a full record be made and preserved by the secretary of the club in its proceedings, and that a copy be sent to the dental journals of America for publication.

Resolved, That, as a token of respect to our late *confrère*, the American Dental Club of Paris join in a body to attend the funeral.

[Signed.] JOHN W. CRANE,
ISAAC B. DAVENPORT, } *Committee.*
J. H. SPAULDING,

The late Dr. Joseph O'Dwyer.—The February number of *Pædiatrics* publishes an excellent likeness of Dr. O'Dwyer. It faces the opening article of the issue, a memorial sketch of Dr. O'Dwyer by Dr. A. Jacobi. After a summary of Dr. O'Dwyer's birth, education, and medical appointments, Dr. Jacobi says:

His connection since 1873 with the latter institution [the New York Foundling Hospital] afforded him the opportunity for carrying on the best part of his great life work, the evolution of which he recorded in his presidential address before the American Pædiatric Society in its meeting at Montreal, May 25, 1896. It is published in the Society's *Transactions* of 1896.

From 1880 to 1885 he thought, experimented, labored, and improved incessantly. Not being acquainted with the previous attempts by Dessault, Dieffenbach, Horace Green, and Loiseau at reaching the larynx and trachea, and with the ill received and rejected "tubage" of Bouchut as far back as 1858, he had to find his own way, often discouraged, but always hopeful. His first reports, in 1885, covered the results obtained in fifty-five acute cases; but at that early time he suggested what afterward proved true: that intubation offered the best chance of success in the treatment of many chronic stenoses. Indeed, at the international congresses of Washington and of Berlin he could present successful cases of intubation performed both in acute and in chronic laryngeal obstructions. A case of "congenital stenosis of the larynx" was reported by him to the American Pædiatric Society, at Washington, May

4, 1897. It appeared after his death, in the January number of the *Archives of Pædiatrics*, 1898.

His first publications on intubation of the larynx in croup saw the light in the *New York Medical Journal* of 1885. They were followed by others in the New York *Medical Record* of 1886. But it was only at and since the meeting of the Medical Society of the State of New York in 1887 that his labors were appreciated at their full value. Shortly after, the stated meeting of the New York Academy of Medicine of June 2, 1887, was arranged for the reading of papers on intubation in croup by Dr. O'Dwyer and others who had ample experience with it. They were accompanied with an array of many hundreds of well-observed cases, and established the claim of intubation as "one of the great advances of medical discoveries." The president of the academy could at that time predict for O'Dwyer's procedure a safe permanency, and for him everlasting fame.

This prophecy has come true. After some hesitation in many foreign countries intubation has conquered its place to such an extent that tracheotomy in croup is, at present, but rarely performed. Among the many good and true medical men who have earned a national and international reputation there is none in modern times whose name will more certainly be forever connected with the history of the art of healing croup than that of O'Dwyer. He never claimed a position as a universal scientist of high rank or as a great public teacher, but he set his sympathetic heart and his ingenuous brain to work upon the task of saving suffocating infants and children—and succeeded. Indeed, nobody's labor and teaching have been so instrumental in saving thousands from imminent death as those of O'Dwyer's. It is safe to say that no American name has been so often and so approvingly quoted in the recent medical literature of the world as his. More: Whenever the records of diphtheria are written up, there will be four names at the head of those who deserve the places of honor, Bretonneau, Trousseau, Behring, and O'Dwyer. They have scattered much of the terror inspired by the very name of diphtheria. No disregard of historical studies, too common among us, will ever efface the name of Joseph O'Dwyer from the memory of medical men all over the world. It will be one of those of whom Americans will have reason to be most proud.

"Is life worth living?" That question has often been asked, and has been answered in different ways. It is true, individual life is of some value to somebody, if only to the possessor. In a broader sense, and in the intellectual world, only those lives should be considered worth living that prove to be of universal benefit and are apt to teach lessons. O'Dwyer's life and work are apt to teach two lessons.

To him renown came, though he never claimed all his lifetime to be anything but a general practitioner. He never thought of raising the flag of any specialism either for the sake of money or of repute. The latter came through his work, which was earnest, enthusiastic, and persistent. Never was a man more so, nor more modest, unassuming, even retiring.

He worked many years in silence, if not in secrecy, before daring or consenting to make public either his labors or his successes; when he finally spoke, fame came to him such as any man may covet. Let those who rush into print before they have anything to say, and are disappointed when they never attain undeserved celebrity, heed his example. Fleeting notoriety may be snatched by push and clamor; permanent glory is attained only by earnest, honest, modest labor such as O'Dwyer's.

The Fate of an Illinois "Osteopathist."—The *Journal of the American Medical Association* for February 5th publishes the following decision of an appellate court:

This is an appeal from a judgment for $100 as a penalty for practising medicine without a license, under par. 10, ch. 91, R. S. It appears that the appellant was engaged in the practice of "the profession of Osteopathy," as it is termed in the briefs; that he had an office where he received patients, and that he visited patients at their homes; that he advertised his system and his skill therein by publications in the newspapers, and that he professed ability to understand and treat human ailments intelligently and successfully.

So far as shown, his treatment consisted wholly of rubbing and manipulating the affected parts with his hands and fingers and by flexing and moving the limbs of the patient in various ways.

It is insisted on his behalf that because he used no medicines or instruments he is not amenable to the statute.

Par. 14 of ch. 91 declares that "Any person shall be regarded as practising medicine within the meaning of this act who shall treat, operate on or prescribe for any physical ailment of another."

It is argued on behalf of appellant that this provision must receive reasonable interpretation, and that to "treat" implies the use of medicines or drugs of some sort, and to "operate on" implies the use of instruments of some sort. This is not so necessarily. Many of the minor operations are effected without the use of instruments by mere pressure, extension and flexing.

This of course implies some knowledge of anatomy and some skill. So, many forms of disease are treated by attention to the diet, habits, and mode of life without resorting to medical remedies.

It is said by counsel that if the statute reaches this case it must include treatment by Turkish baths, massage, and the like. We think not. The evidence shows that appellant held himself out as competent to treat and cure numerous diseases, such as all forms of fevers, cerebrospinal meningitis, catarrh, diphtheria, croup, pneumonia, asthma, indigestion, dysentery, kidney diseases, measles, paralysis, and many others, including, in fact, a large proportion of the ailments common to mankind. He represented himself as a graduate of the new school of "osteopathy," and held himself out as qualified to examine and treat all who might seek his aid. Herein he differs from those who give Turkish baths, massage, and the like.

He professes to be able to diagnose and advise in respect to a long list of diseases and to furnish discriminating and efficient treatment to those who may come to him, and while he may rely wholly upon manipulation, flexing, rubbing, extension, etc., yet he professes to have skill and judgment in these methods, so as properly to adapt the treatment to each case, giving it what is appropriate in amount and with repetition at such times and to such extent as may be dictated by his knowledge and experience. By his skill in the use of his peculiar remedies or methods he claims to be competent to relieve and cure various ailments, and therefore he invites patronage. We are referred to the case, Smith *vs.* Lane, 24 Hun. 632. The statute of New

York is unlike ours, and the facts of that case are unlike these in the case at bar. We think the ruling there should not control here.

It is suggested rather than argued that as the title of the act in question is "An Act to regulate the practice of medicine in the State of Illinois," and as the constitution provides that no act shall embrace more than one subject, which must be expressed in the title, any construction which would include a matter not within the practice of *medicine* must be avoided, or the act is unconstitutional.

"Medicine is the art of understanding diseases and curing or relieving them when possible."—Bigelow. "It is that branch of physics which relates to the healing of diseases."—Dunglison.

This act is not restricted to any particular methods or remedies. Indeed; these are almost innumerable, considering what are used and what have been discarded.

We are of opinion the proofs bring appellant within the act, and that he is liable to the penalty imposed thereby for practising medicine without a license.

It is urged the court erred in refusing to dismiss the suit for want of authority of plaintiff's attorney to institute the action.

It is shown by a recital of the clerk in the order of record that such a motion was made and overruled, and that the defendant excepted.

This entry by the clerk in the orders of the court for the day is not sufficient to save the exception, and if it were, there is nothing to show that the motion was supported by anything requiring the action of the court. Such a motion should be supported by affidavit or some matter of which the court should take notice, and must be preserved by a bill of exceptions. The judgment will be affirmed.

The City Board of Health and Senate Bill No. 5.—The following action has been taken by the medical board of St. Luke's Hospital:

Whereas, in the opinion of the medical board of St. Luke's Hospital, the health department of New York city has rendered great public service by its measures designed to prevent the spread of infectious diseases, including tuberculosis, and

Whereas, we recognize the importance of the continuance of its scientific researches on the same lines, and

Whereas, there has been introduced into the State senate a bill, known as the "senate bill No. 5," which would greatly restrict the work of the health department and limit its efforts to secure the best sanitary conditions for the citizens of New York, therefore be it

Resolved, that this board do hereby protest against senate bill No. 5, believing that its passage would work great injury to the interests of the community.

Resolved, that these resolutions be spread on the minutes of this board, and that copies be transmitted to the senate committee on cities, to the New York city health department, and to the medical journals of this city.

[Signed.] V. H. Norrie, M. D.,
Secretary of the medical board.

The Seaboard Medical Association of Eastern Virginia and North Carolina.—The February number of the *North Carolina Medical Journal* publishes the proceedings of the meeting of organization, held in Norfolk on January 20th and 21st. Officers were elected as follows: President, Dr. J. F. Lynch, of Norfolk; vice-presidents, Dr. Thomas F. Riddick, of Woodville, North Carolina, and Dr. J. H. Peck, of Hampton, Virginia; secretary, Dr. J. E. Phillips, of Suffolk, Virginia; treasurer, Dr. L. Gwathmey, of Norfolk.

The American Medical Association.—At the next meeting, which is to be held in Denver on June 7th, 8th, 9th, and 10th, the following papers and subjects for discussion are to be presented: The Therapeutics of Pulmonary Phthisis, by Dr. Paul Paquin, of St. Louis; Tuberculin as a Diagnostic and Curative Agent, with a Report of Two Hundred and Fifty Tuberculous Cases treated, by Dr. C. H. Whitman, of Los Angeles, California; The Practical Value of Artificial Serum in Medical Cases, by Dr. P. C. Remondino, of San Diego, California; The Use of Remedies in Diseases of the Heart and Blood-vessels, by Dr. T. Lauder Brunton, of London; The Mescal Button, by Dr. D. W. Prentiss, of Washington; The Modern Intestinal Antiseptics and Astringents, by Dr. William Frankhauser, of New York; To What Extent is Typhoid Fever Favorably Modified in its Course, Duration, Termination, or Sequelæ by the Administration of Drugs, by Dr. Frank Woodbury, of Philadelphia; Strychnine, by Dr. J. N. Upshur, of Richmond, Virginia; Methods of teaching Materia Medica and Therapeutics, by Dr. G. H. Rohé, of Baltimore; The Study of Materia Medica and Therapeutics, by Dr. H. M. Bracken, of Minneapolis; The Great Therapeutic Importance of a Rational Adaptation of Cathartic Remedies to the Physiological Functions of the Gastro-intestinal System, by Dr. E. D. McDaniels, of Mobile, Alabama; Why the Pharmacopœial Preparations should be prescribed and used by the profession, by Dr. Leon L. Solomon, of Louisville; and The Use of Electricity by the General Practitioner, by Dr. Caleb Brown, of Sac City, Iowa.

The subjects for discussion are the following: Yellow Fever: Its Ætiology and Treatment, to be discussed by Dr. George M. Sternberg, of the army; Dr. John Guitéras, of Philadelphia; Dr. Sollace Mitchell, of Jacksonville, Florida; Dr. T. S. Scales, of Mobile, Alabama; Dr. G. B. Thornton, of Memphis; Dr. H. M. Bracken, of Minneapolis; and Dr. P. E. Archinard, of New Orleans.

Aims of Modern Treatment of Tuberculosis, by Dr. Edwin Klebs, of Chicago; to be discussed by Dr. Charles Denison, of Denver, and Dr. C. H. Whitman, of Los Angeles, California.

Serum Therapy of Tuberculosis, by S. O. L. Potter, of San Francisco; to be discussed by Dr. James M. Anders, of Philadelphia.

The Treatment of Apoplexy.—On clinical grounds M. J. Grasset, in the *Médecine moderne* for January 1st (*Lyon médical*; January 23d), advises making use of the word apoplexy in the old sense, symptomatic, and not making it synonymous with cerebral hæmorrhage. Apoplexy, he says, is a syndrome connected with other material lesions besides cerebral hæmorrhage, and, like all syndromes, it must be specified by its clinical characters.

Apoplexy is the sudden cessation of the cerebral action produced by a spontaneous alteration, organic or functional, of one or more parts of the brain, with preservation of the respiration and of the circulation. The principal cerebral alterations which may produce apoplexy are the following: Cerebral hæmorrhage and, less frequently, meningeal hæmorrhage; softening, either from thrombosis or from embolism; the cerebral congestion which is often observed in cerebral tumors; progressive general paralysis; disseminated sclerosis; the cerebral œdema of the type observed in uræmia; and finally the nervous, dyscratic, and toxic apoplexias. The classification of apoplexies based on the nosological species are arthritism, alcoholism, syphilis, paludism, hysteria, etc.

If, says M. Grasset, no rational treatment is found to combat the clot in cerebral hæmorrhage, or to combat the necrobiotic condition of the cerebral substance, it does not signify that there is nothing to combat the apoplexy itself and the ictus, which may disappear in spite of the persistence of the clot or of the seat of the softening. While it is admitted that the initial lesion is beyond all therapeutic aid, a rational and useful treatment of the apoplexy itself may be instituted.

There is no prophylactic treatment for apoplexy in general, but there is for the various forms, such as uræmic, alcoholic arteriosclerotic, syphilitic, or paludal apoplexy. Whatever may be the pathogenic theory regarding apoplexy, it is essentially characterized by a congestive condition of the head and by circulatory erethism.

Concerning the treatment, says the author, revulsion in all its forms should be employed to combat this congestion. Preference is given to the local revulsives, that is, to the application of leeches behind the ears or to the anus. Phlebotomy is not indicated unless there are internal circulatory erethism, general turgescence, and a vibrating pulse.

Purgatives may also be used as revulsives, and, if the patient is able to swallow, from two to four capsules containing four grains of calomel may be given in milk, or, every fifteen minutes, a teaspoonful of the following mixture:

℞ Croton oil		1 drop;
Castor oil, Sweet almond oil,	each	450 grains;
Syrup of lemon		900 "

M.

If the patient has difficulty in swallowing or is not able to swallow at all, enemata containing glycerin and from two hundred and twenty-five to four hundred and fifty grains sodium sulphate in a decoction of a hundred and fifty grains of senna should be employed.

The third group of revulsives comprises the cutaneous revulsives, such as mustard plasters, aseptic compresses soaked in a hot boric-acid solution, etc. Blisters should be very prudently employed, and preference should be given to those of ammonia or chloral.

This revulsive treatment may be supplemented by cold applications on the forehead or on the top of the head; these applications, however, must not be too cold and must not be interrupted suddenly.

In addition to the revulsive treatment there are often, in apoplexy, indications for stimulation and sustenance. If, therefore, the patient is able to drink, the following potions may be employed alternately:

℞ Ammonium acetate	75 grains;
Tincture of canella	45 "
Syrup of orange flowers	450 "
Linden water	4 ounces.

M.

℞ Caffeine, Sodium benzoate,	each	30 grains;
Simple julep		4 ounces.

M.

If the patient is unable to swallow, and the indication is urgent, hypodermic injections must be resorted to; from one to five or ten cubic centimetres of ether may be injected in the twenty-four hours, and from two to four or six cubic centimetres of the following mixture every day:

℞ Caffeine, Sodium benzoate,	each	38 grains;
Boiled water		150 "

M.

Or else the following:

℞ Camphor, Sterilized olive oil,	each	150 grains.

M.

The room should be kept thoroughly aired, and the patient should not be allowed to see many persons. Great cleanliness should be observed. The bladder should be watched and catheterism practised if it is necessary; the production of eschars should also be watched.

As a diet, we may give milk and bouillon if the patient is able to swallow. A small quantity of a decoction of cinchona, granulated kola, or, in certain cases, a little alcohol (from an ounce and a half to two ounces of cognac, kirsch, rum, or chartreuse) may be given.

Spitting in the Street Cars.—The observance of the prohibition of the Boston board of health and the boards of some of the neighboring towns against spitting in the street cars seems of late to have been somewhat lax. Before resort is had to more stringent measures for the enforcement of the rule, the authorities of the Boston Street Railway Company propose trying the effect of furnishing the conductors with pads of slips on which are printed the regulations of the board of health. To every offender and on the occasion of each offense against the rule the conductors are enjoined to politely furnish one of these slips. We would suggest that the conductors be also provided with a basket of destructible spit cups and a bottle of antiseptic solution, to be furnished together with the slip.—*Boston Medical and Surgical Journal.*

The Scope of the Marine-Hospital Service.—The following editorial article appeared in the *Medical News* for February 5th: It is often stated by those who are opposed to the Marine-Hospital Service, and it is uttered with all the solemnity of a final pronunciamento, that the service was originally established to care for sick and disabled seamen, and is, therefore, incapable of performing other or allied functions. When this had been uttered, the final blow was thought to have been dealt to the service by those who are interested in opposing its development.

That it was originally established for the purpose named is true, but to assign that as a reason why it is incapable of performing other functions is both unimportant and superficial. The care of sick and disabled seamen brings the officers of the service into intimate relations with the hygiene and sanitation of ships, and the history of the service abounds with records of investigations made into these subjects, which are so closely allied to quarantine. Long before the Marine-Hospital Service was intrusted with the duties of enforcing national quarantine laws, its officers had made both official and unofficial investigations into the cleanliness of ships, the hygiene of the forecastle, sanitation of crews, examination of the food supply of deep-sea vessels, all of which may be found in the annual reports, which have been issued for the past quarter of a century. So far from disqualifying officers for the work of a public-health service, particularly in its relation to maritime quarantine, the intimate and almost indispensable connection with the functions of a public-health service peculiarly fits the officers for the performance of such duty, and the active participation by them in such work during the period named makes them what unbiased persons regard them to be—the only corps of medical men in this country specially skilled in the class of work in question. The very foundation of a system of safeguards for the national health is a protection of the interior of the country from the introduction of contagious disease from without. The service which, since its foundation, has dealt with "men that go down to the sea in ships," and with the condition of ships themselves, is the one best fitted by long and practical experience to deal with the question of maritime quarantine.

This is not all. Along the line of natural development the Marine-Hospital Service has progressed, by direct authority of congress, in other fields of investigation and execution in respect to public-health functions, and besides its original work of caring for sick and disabled seamen (of which over fifty thousand are treated annually), keeping officers in touch with active professional work, it has performed its functions as the Federal agency in the management of quarantine; undertaken investigation of small-pox by direction of congress, the results of which study are ready for publication; has collected and published data respecting health and mortality statistics throughout the United States and the world, the last by the reports of the consular service. It has also been engaged for the past year or more in experiments in car sanitation with respect to communicable diseases; has conducted investigations concerning the pollution of water-supplies; performed pioneer work in this country in respect to diphtheritic antitoxine and formaldehyde disinfection; and two of the officers are now in Havana, Cuba, by detail of the president, conducting an investigation into the causation of yellow fever. These varied duties which it has performed and is now performing, certainly indicate the variety of its work in connection with public health serviec. Its hygienic laboratory is one of the best equipped in the country, and here every year, in turn, several officers receive instruction bearing upon the advances in hygiene, bacteriology, and allied sciences. These facts should certainly satisfy any reasonable professional man that the scope of the service is sufficiently varied, and that it is entitled to the sympathy and support of the medical profession throughout the country in its development and progress.

Any movement which has for its cardinal text the relegation of the Marine-Hospital Service, which has done so much pioneer work in the interests of public health, to a secondary or even more obscure position in the ambitious plans of its enemies will not meet with a responsive chord in the minds of the majority.

The service is developing in the exact direction which the promoters of the proposed department of public health expect to attain by one act of legislation.

The senate, upon the recommendation of its committee on public health and quarantine, has already indefinitely postponed two bills for the establishment of a department of public health, and favorably reported the Caffery bill, which imposes additional powers and duties upon the Marine-Hospital Service. In view of the state of the national finances and the improbability of congress assenting to the large and indefinite expenditure necessary for the establishment of a department of public health, it seems to us that the profession should turn its attention to developing and supporting the Marine-Hospital Service as the public health service *de jure* as well as *de facto,* and that those who are now, as we think, mistakenly, if honestly, expending their efforts in the attempt to create a department of public health should join with their fellows in strengthening the hands of their professional brothers in the Marine-Hospital Service who have been so long and faithfully serving the public.

The Anderson-Carter Correspondence on the Question of National Sanitation.—We have been asked to publish the entire correspondence between Dr. Warren E. Anderson and Dr. H. R. Carter. We regret that the limitations of our space do not admit of our dong that. We have already given the substance of Dr. Carter's letter (see the *Journal* for February 5th, page 189), and that, we think, gives a fair idea of what Dr. Anderson said in his first letter. The following is Dr. Anderson's reply to Dr. Carter, dated January 25th:

Dr. H. R. Carter,
Surgeon Marine-Hospital Service, Mobile, Ala.

Dear Sir: I received some days since an open letter from you, dated at Mobile, Ala., January 10, 1898.

You say that you are willing to believe that I would be "glad to have any errors of fact pointed out" as such appeared in my letter since known as An Earnest Protest, addressed to Hon. Frank S. Gardner, of New York. I can assure you that you are not incorrect in your supposition, but I must confess that I do not find, after a careful reading of your letter, that any errors of material consequence have been exposed in your strictures.

I have constantly aimed, since the inception of the present agitation over public health and quarantine matters, to avoid all inaccuracies of statement in such articles as I have written upon the subject, and I will briefly recount, without replying to each of your several statements *seriatim,* the sources of my information, and the means by which my conclusions were reached.

In calculating the proportion of officers of your service who were experienced in yellow-fever epidemics, I relied partly upon my personal observation in these matters, and partly upon contemporaneous history. If these sources have failed me in accuracy, then, indeed, I shall submit in silence; but let us see if my deductions were not substantially correct.

You will, I am sure, admit that at the time of the last general epidemic of yellow fever in the South, some twenty years ago, a few of the present members of your service had but recently discarded their swaddling clothes, while yet many others were engaged in such juvenile sports as mumbly-peg, leap-frog, shinny, etc.; that, since that memorable epidemic, the following opportunities for studying the disease have presented themselves: at Pensacola, Brownsville, Brewton, Pensacola Navy Yard, Biloxi, Tampa, Jacksonville, Fernandina, Brunswick, and lastly, the far-reaching one of 1897, which encompassed within its grasp the geographical limit of three or four States of the Union; that no officer of the regular force of the Marine-Hospital Service was present, save in one or two of these places, you must admit to be true.

I am willing to believe that at the four or five quarantine stations in the South under the control of the Marine-Hospital Service, a small number of its officers have acquired some skill in the management of yellow-fever quarantine, and that a few others had gained an experience of the disease many years before, prior to 1879; but that nearly forty per cent. (or thirty-nine per cent., to be exact, according to your statement) have acquired from such limited opportunities any considerable knowledge of these epidemics seems little less than marvelous, to me, but if you know this to be true of your *own* knowledge, I will accept it as a correction.

You affirm that State Health Officer Porter would have increased the ratio as given by me, if he had been consulted. I will state that I submitted my letter to him, before its publication, and desiring to be absolutely accurate, asked his opinion of that portion particularly; he replied that "the available expert quarantine officers of the service are less than ten per cent. of the regular force."

You admit my charge of youth and inexperience to be true, but you deny that "one of these men have even been or is likely to be sent to preside over the health interests of New Orleans, or any other place." You say, however, that "the officer of the service in charge of the Brunswick Station in 1893 was a non-immune." He was also, I believe, very young, and, I presume, had no practical knowledge of yellow fever whatever.

It appears to me that if the necessity of such an appointment existed then, it might surely occur again either at Mobile or New Orleans. Such an unfortunate incident might possibly have been avoided by the perfection of a Department of Public Health dominated by the wise counsels of men who by the experience of years had learned to control this disease.

You state that it is the policy of the Marine-Hospital Service to "avail itself of the talent and experience of other physicians in epidemic and other work"; and cite numerous instances to substantiate your assertion. I can not dispute this point with you, as *it too clearly proves the truth of my statement that this service was not of itself sufficiently equipped to protect the health interests of our country.* That many of its members are men of ability; that a few others possess not only ability, but great experience, no one can truthfully deny; but I do contend that the number possessing both of these qualifications is too small for the purpose of successfully opposing the introduction of epidemic diseases. Porter was employed, and given absolute control of the situation in Jacksonville in 1888, only because of his superior qualification for this important work, or, otherwise, the Marine-Hospital Service would have detailed one of its own officers for that duty. John Guiteras was engaged during the recent outbreak in the South solely from the fact that this service was not equipped in this particular, or else one of its officers would have been assigned the task so ably and intelligently executed by him. And, according to your honest and frank admission, the same is true in many other instances. My contention on this point may well rest here upon the evidence adduced by yourself.

You would have it appear that the majority of officers of your service are southern men. That is in a political sense, as I understand it, whereas, I made no such reference at all, but carefully and studiously avoided it. I submit that a large number of this service—about twenty per cent., I believe—are Virginians alone, but Virginia is "southern" only in historical and political affiliations; certainly not in its proximity to yellow-fever infected centres, or in those opportunities of studying the disease by close and repeated conflicts with it which exist in the far South. The same is true of North Carolina, Kentucky, and Tennessee, and these States I intended to eliminate entirely in the sense of being "South." My statement, then, was intended to apply to the five Gulf States, South Carolina, and Georgia.

The testimonials to the efficiency of the Marine-Hospital Service, referred to by you with pardonable pride, are valuable, it is true, but are due solely to the fact that that service is the only one of the kind partaking of any of the characters of a national health organization, and it is my conviction that our people are overwhelmingly in favor of a system of federal health protection, but entirely separate from and independent of the treasury department.

The author of the resolution indorsing your service, passed some time since by the Georgia Legislature, told me a few days ago that he *did not favor control of our health affairs by the Marine-Hospital Service, but he did not desire his State to be on record as indorsing such control by the Federal Government alone.*

As to the correctness of my other charge, that "twice in four years, at stations operated only by the authority of the Marine-Hospital Service, yellow fever had gained entrance to our country, etc." I did not particularize as to how this had occurred, but took the act of Congress, February 15, 1893, as my authority. By reference to this law, you will find that your service has practically had *absolute supervisory powers over every quarantine station in the country,* and to my personal knowledge, this authority has been exercised under that law, in this State, and elsewhere. I presume, as the law was mandatory in character. This being admitted, I contend that as the act was passed some six or seven months prior to the Brunswick episode, that the Marine-Hospital Service was directly responsible for the introduction of yellow fever at that port. To elucidate this point, I quote from the Quarantine Laws and Regulations of the United States Treasury Department:

"ARTICLE XI.—INSPECTION OF STATE AND LOCAL QUARANTINE.

"In the performance of the duties imposed upon him by the act of February 15, 1893, the supervising surgeon-general of the Marine-Hospital Service shall, from time to time, personally or through a duly detailed officer of the Marine-Hospital Service, inspect the maritime quarantines of the United States, State, and local as well as national, for the purpose of ascertaining whether the quarantine regulations prescribed by the Secretary of the Treasury have been or are being complied with. The supervising surgeon-general, or the officer detailed by him as inspector, shall at his discretion visit any incoming vessel, or any vessel detained in quarantine, and all portions of the quarantine establishment for the above-named purpose and with a view to certifying, if need be, that the regulations have been, or are, being enforced."

In all other matters, moral and legal, who is held responsible—the principal or the agent operating only by the authority of the higher power?

I believe that, arriving at a clearer comprehension of my argument, you will admit that the position assumed in my "earnest protest" was not only a tenable one, but well-nigh impregnable in the light of recent historical events.

Very truly yours,
Warren E. Anderson.

Original Communications.

PSYCHRO-ÆSTHESIA (COLD SENSATIONS), AND PSYCHRO-ALGIA (COLD PAINS).*

By CHARLES L. DANA, M. D.,
VISITING PHYSICIAN TO BELLEVUE HOSPITAL;
PROFESSOR OF NERVOUS DISEASES, BELLEVUE HOSPITAL MEDICAL COLLEGE.

Introductory.—In a recently written article on the subject of paræsthesia † I have tried to show with some new emphasis the significance and relationship of this symptom. I venture to quote here some of my introductory paragraphs:

> Paræsthesia is the name given to a number of subjective sensations, such as prickling, numbness, creeping sensations, tickling, and burning. It includes, in fact, nearly all the subjective sensations of the skin, except those of pain. It is a condition which is, therefore, extremely common, and in its mildest and most trivial character is much more often experienced than pain. When these sensations fix themselves in a certain locality, following the tract of the nerve, or fastening themselves upon the hand or foot, they take on a certain clinical picture, and deserve to have the name of a disease to just the same extent that a neuralgia does. Paræsthesia, in almost all cases, implies simply a lower grade of irritation of the nerve fibres than occurs in neuralgia, and is a kind of ghostly simulacrum of that disease. It very often precedes or accompanies attacks of pain. There is sometimes a tingling of the teeth or burning in the face which has a shadowy likeness to a toothache or trigeminal neuralgia. In the same way, one finds paræsthesias affecting the head, causing sensations of pressure and constriction, of burning, and general undefinable discomfort, which are entirely comparable to headaches.
>
> In conditions of neurasthenia, paræsthesias of the head are more common even than the headaches. Paræsthesia sometimes follows the course of a nerve, as when one feels numbness of the hand if the ulnar is pressed upon at the elbow, or numbness in the foot when the sciatic is pressed upon, as when the legs are crossed.
>
> There is also paræsthesia affecting one of the intercostal nerves or one of the crural nerves. On the other hand, paræsthesia may affect all four extremities, so that they feel entirely benumbed or prickling. There is, I repeat, a very close analogy between these groups of paræsthesias and neuralgias.
>
> Paræsthesia affects single cerebro-spinal nerves just as neuralgia does, or it may be more generally distributed. In the latter case it affects most the feet and hands, and it is called *acro-paræsthesia.*
>
> We meet then with:
>
> 1. Cephalic paræsthesias, comparable to diffuse headaches.
> 2. Local paræsthesias, comparable to local neuralgias.
> 3. Acro-paræsthesia, involving the feet or hands or both diffusely.
>
> The cephalic paræsthesias are usually symptoms of neurasthenic or lithæmic states. Among eighty-five cases of local and acro-paræsthesiæ, not symptomatic of other and organic nerve disease, I found that there were of the local forms thirty-five cases, of acro-paræsthesia fifty cases. The local paræsthesias affected the arms in eighteen cases, next the thigh and leg nerves in twenty cases, and, last, the trigeminal nerve in three cases.
>
> The following analysis of eighty-five cases of paræsthesia occurring in my practice shows something of the cause and local development of the malady. The most frequent causes I find to be those concerned with occupation. Paræsthesia, in its general manifestations, may be considered almost an occupation neurosis. The list of cases may be put down as follows:
>
> | | | | |
> |---|---|---|---|
> | Occupation | 15 | Reflex irritation | 2 |
> | Rheumatism | 10 | Hysteria | 3 |
> | Alcoholism | 6 | Climacteric change | 2 |
> | Infection | 6 | Various causes, such as neurasthenic state, puerperium, etc. | 12 |
> | Senility | 6 | | |
>
> Among 85 cases there were 36 males and 49 females:
>
> | | Males. | Females. | Total. |
> |---|---|---|---|
> | Hands and feet, or both, affected | 6 | 11 | 17 |
> | Hands alone | 6 | 12 | 18 |
> | Feet and legs | 10 | 10 | 20 |
> | General sensations | .. | 4 | 4 |
> | Local | 14 | 12 | 26 |
> | | 36 | 49 | 85 |
>
> The special nerves affected were:
>
> | | | | |
> |---|---|---|---|
> | Trigeminal | 4 | Sacral | 1 |
> | Brachial | 5 | Sciatic | 1 |
> | Ulnar | 7 | Plantar | 11 |
> | Radial | 1 | | 35 |
> | Crural | 4 | | |
> | Peroneal | 1 | | |

The commoner form of paræsthesia is simply that of a sensation of prickling numbness or of a part being asleep. A more rare form is that accompanied by sensation of heat, and here the perverted feeling verges closely upon pain. In fact, the sensation of heat is often so distressing that the patient considers it to all practical purposes a pain, although it may not correspond to the strictly technical psychological definition.

Psychro-æsthesia.—Among the rarer forms of paræsthesia are those of sensations of cold (psychro-æsthesia, from ψυχρός, cold). These sensations are felt quite apart from any actual lowering of the temperature of the body and without any objective evidences of vascular change in the affected part. Cold paræsthesias are not usually very distressing, and, although they are sometimes described as cold pains, they are not so akin to pain as are the heat sensations. The term psychro-æsthesia was first used by Pollaisson (*Lyon médical,* 1887). Later it was adopted by Silvio (*La Riforma medica,* February 17 and 18, 1896), and these authors have reported several cases of this kind. A case was also reported recently by Dr. L. G. Guthrie in *Brain,* spring and summer number, 1897. These two later articles have drawn renewed attention to this interesting symptom. A number of cases have occurred in my experience, and it seemed to me that it might be worth while to report a few of them in hopes that a fuller knowledge of the ætiology and pathology of the condition might be obtained.

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* Read before the New York Neurological Society, October 5, 1897.

† *Text-Book of Nervous Diseases,* fourth edition, p. 152.

Case I.—Dora C., aged fifty-three years; Ireland; washerwoman. The patient for three years had had constant tinnitus aurium, especially in the right ear, troubling her most at night. She had disease of both internal ears and chronic middle-ear catarrh, and both external canals were almost filled by soggy epithelial scales. Such was the report of her condition by Dr. A. M. Fanning. Her special complaint was of the cold sensation which she felt continuously in the forehead during all this period of three years. This annoyed her so much that she thought she could not get along without a bandage over her forehead to keep it warm. The sensation was bilateral and involved the upper part of the forehead, like a brow headache; the skin was not cold or in any way changed to the sight or touch. She had some of the ordinary paræsthesias in the hands and feet of the prickling pins-and-needles kind. She was slightly nervous and slept badly. There was no dyspepsia, and the bowels were regular. She drank a good deal of tea—five or six cups a day. Examination showed no anæsthesia in any form and no signs of organic nervous disease.

Here was a case of cold paræsthesia of the forehead, associated with the ordinary paræsthesias which occur in middle-aged women who do a great deal of washing and drink a good deal of tea and, perhaps, alcohol.

Case II.—Francis L. L., aged fifty-six years; married; United States; mechanic. Family history good; no syphilis; habits temperate. His occupation compelled him to stand all day. The patient had some chronic bronchial trouble, and a year and a half ago he began to have paræsthesia of the legs below the knees. He said the trouble came on at two in the morning. Very soon after this he began to have sensations of coldness in the feet, which were always worse in the morning and lasted until the middle of the afternoon. During this time he felt as if standing upon ice, and he would try by heat and rubbing to get rid of the discomfort. Toward three o'clock the cold sensations changed to burning sensations, which lasted until night. He had some tremor, the pulse was rather rapid, and he showed signs of arterial sclerosis. The lungs, heart, and sexual organs were normal; digestion normal, and a physical examination showed absolutely no anæsthesia of the affected parts and no change in the vascularity. The reflexes were slightly exaggerated.

Here, again, we have a case of cold paræsthesia associated with heat and the ordinary prickling paræsthesia, due probably to exposure, to defective venous circulation dependent on the man's habits of standing at his work, and probably to some rheumatic influences.

Case III.—Lewis S., aged forty-two years; married; butcher by occupation. Family and previous history negative. The patient was a healthy-looking man, who came to the clinic complaining of a sensation of coldness over the left thigh, especially marked on its anterior surface. This had lasted for six months, and had been gradually increasing. During the previous year he had had the same sensation in the right thigh, but this had disappeared. He denied syphilis and rheumatism. He drank, but not to excess. Examination showed absolutely no objective signs. Sensation was normal as to temperature, touch, and pain. The tongue was thickly coated, and there was some history of dyspepsia. On questioning him I found that in his occupation his thigh was constantly brought into contact with the edge of a table or counter; in other words, there was constant slight trauma. Dr. George R. Elliott, who examined his urine, concluded that there was a toxæmia from digestive disorder.

Case IV.—James G., aged sixty-two years; Ireland; married; occupation, clerk. The patient had suffered several years from bronchitis. For three weeks previous to being seen by me he had been suffering from some prickling paræsthesia of the fingers and in the lower extremities, and, at the same time, he had sensations of cold in these parts. He had dyspepsia, poor appetite, and constipation. Examination showed nothing objective in the hands and feet; the knee-jerks were present; there was no loss of power in the legs, and no anæsthesia over the affected parts. The sensations of cold were not due to actual vascular changes, but were subjective. The patient had no signs of tabes dorsalis.

Case V.—Jeremiah H., aged forty-nine years; married; Ireland; laborer. The patient had always been a healthy man and did not drink intoxicating liquors. For four successive winters he had suffered during the whole of the cold weather from a sensation of coldness on the left leg, on the outer side just above the ankle. The affected area was sharply mapped out and measured about eight by four inches. It was not exactly painful, but gave him a great deal of annoyance and apprehension. The sensation disappeared as the summer weather came on. There were no other complaints. Examination showed nothing abnormal in touch, sensation, or pain, nor were there any objective changes to be seen in the part affected. A careful general examination was made without discovering any signs of organic disease. The patient described his symptoms vividly, and he was shown to my class as a case of cold paræsthesia, due to some irritation of the peripheral filaments of the external popliteal nerves.

Case VI.—Elizabeth J., aged forty-one years; Ireland; domestic. For about a year the patient had suffered from some pains in the right ankle, together with prickling sensations which ran down to the toes and up to the knees. The part from the knee down also felt constantly cold, and this cold sensation was associated with paræsthesia and prickling. The patient denied ever having had rheumatism, and also denied drinking and other bad habits. Her general health was good, and there were no objective symptoms connected with the part affected. The legs and feet were not tender, nor was there any redness or swelling. The knee-jerks were present, and there was no particular weakness of the extremities. The patient complained of the coldness, but perhaps even more of the prickling and pain.

Case VII. — Mr. C. C., aged forty-four years; United States; married; occupation, business. Family history good. The patient had had syphilis twenty years before, with secondary symptoms afterward. He was a well-nourished man and apparently in good health, except for the particular symptom complained of. This consisted of a sensation of intense coldness over the left hip on its lateral surface. The area was limited, and extended from the knee about two thirds of the way up the thigh, mostly in the distribution of the external cutaneous nerve. He felt, he said, as though it had been painted with menthol. Warmth and exercise made it disappear for a time, but it returned. The part affected looked and felt to the touch perfectly normal. There was no anæsthesia of touch, pain, or temperature. A careful examination failed to reveal any trouble with the general bodily functions. The urine, digestion, heart, and lungs were normal. The pulse was 68. A further careful examination was made for tabes, but he showed no signs of this. There was no loss of knee-jerks; no eye symptoms; no bladder symptoms. The patient simply suffered from this continual sensation of coldness of the thigh.

The foregoing cases all occurred in patients in whom it was impossible to detect any absolute signs of organic disease of the central or peripheral nervous system. I have under observation now at the Montefiore Home two patients, one of whom is certainly suffering from syringomyelia in an advanced stage. The other probably has syringomyelia in an early stage. In both cases the patients complain of a sensation of coldness over the upper extremities. This sensation is felt from the hands up to the elbows, and is simply a cold feeling not associated with pain. Both patients have some slight sensory disturbances, such as thermo and pain anæsthesia, but these are not marked. They are not accompanied with sensations of prickling or of heat, or with the ordinary paræsthesias.

I have presented the foregoing clinical data very much condensed, for the reason that I know that my hearers are familiar with cases of this kind, and it does not seem to me necessary to go into elaborate detail to illustrate further their character.

Analysis of Symptoms.—We have apparently two classes of cold paræsthesia. In one the symptom is not definitely limited to certain areas, but involves a whole extremity or all four extremities, and is associated with other paræsthesias or with pain, and often with evidence of vasomotor disturbance.

The other class of cold paræsthesia, psychro-æsthesia proper, is a disorder in which the sensation is quite an isolated one. The patient suffers from a feeling of cold exclusively, or almost so, having with it no prickling or numbness and not always any distinct pain, although it may amount to such. Furthermore, this form of paræsthesia is limited to some special area, oftenest upon the thigh or buttock, but sometimes upon the calf or upon the face, and more or less closely following the distribution of a nerve.

The sensation is purely dermal and superficial. The mind refers it to the external world, so that it seems like an objective sensation similar to a touch. The patient feels as though some cold object were lying upon the part.

The sensation may disappear in warm weather or under exercise.

In some instances it is not so much a cold sensation as a cold pain or psychro-algia, and it may be obstinate and distressing, especially in quite elderly and senile persons.

Pathogeny.—The psychro-æsthesias of the first or mixed type are met with oftenest in mild forms of neuritis, such as may be caused by alcohol, or such as occurs in sciatica; they are also observed in locomotor ataxia. Among thirty-six cases carefully examined for this symptom by Dr. Joseph Fränkel, he found two persons who spontaneously complained of sensations passing up and down the back like waves of cold, or affecting the legs in a similar manner. The symptom also occurs in the early stage of syringomyelia, as noted in my two cases. Mixed psychro-æsthesia is thus usually due to neuritic irritation, but may indicate a lesion higher up. Yet in practically all cases it means a lesion of the peripheral sensory neurone at one part or another of its course.*

The exciting causes are usually alcohol, lithæmia, exposure, and toxic agents that lead to nerve degeneration.

The purer types of cold sensation and cold pain are found more often in men, and almost always in persons over forty years. The trouble is caused sometimes by trauma, combined with exposure and a rheumatic tendency. A neuropathic constitution favors its development. Polaisson attributes some cases to varicose veins and to uterine disease.

So far as clinical experience and reading go, the cold paræsthesia of syringomyelia is less intense and less sharply limited than those in the cases described. The patients have simply a sensation of general coldness, but not of the same sharp smarting coldness complained of by the patients whose history I have reported. The sensation is really subjective, is like that felt in diffuse neuritis, and is perhaps due to vasomotor disturbances.

Pathology.—There are both special cold and special heat nerves distributed to the skin and some of the mucous membranes. The fibres carrying these thermal impulses run in the cerebro-spinal nerves mingling with other sensory nerves. They separate again in the spinal cord, as shown in cases of syringomyelia and central-cord lesions, but apparently run very diffusedly in the brain axis and capsule, for local lesions here do not cause a differentiation of heat and cold anæsthesia. Hence (apart from psychical states) we must place the seat of the lesion in psychro-æsthesia practically almost always in the peripheral nerves. Its presence may, however, indicate a beginning syringomyelia or some other central cord lesion; and also, in rare cases, locomotor ataxia.

Treatment.—In most cases the treatment is that of an underlying neuritis or neuritic irritation. Antirheumatic drugs, nux vomica, exercise, and electricity are indicated. Locally, a liniment containing a little mustard oil is useful. Warm applications and friction sometimes give relief. In very obstinate cases the question of syringomyelia should be investigated. Where there are pain and evidences of decided neuritis, as in sciatica, rest is necessary.

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* Dr. William H. Thomson reports a case of psychro-æsthesia due to a cerebral lesion. Such cases are unique.

THE EFFECTS OF
BORAX AND BORIC ACID ON NUTRITION.

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In a recent report of the Connecticut Agricultural Experiment Station * it is stated that borax and boric acid are now extensively used as food preservatives, since they are effective and cheap, as well as odorless, and their taste is easily lost or disguised when they are mixed with food. In view of these facts the question at once arises as to the possible effects of the continued or frequent use of these preservatives upon the health of consumers. To what extent do these substances exert an influence upon the processes of nutrition? This is obviously a question of considerable importance to the guardians of the public health, as well as to the consumers of such articles, and as a long series of experiments upon this subject has been recently carried out in the writer's laboratory † it may not be amiss to call attention to the general character of the results obtained.

As stated by Professor Johnson in the report above referred to, "whether any one antiseptic shall operate as a harmless preservative, preventive, or remedy, or as an unhealthful or even fatal poison to the consumer of food or drink containing it, depends upon the quantity and frequency of the dose." Of the general truth of this statement many illustrations are cited. Thus, acetic acid, the active constituent of vinegar, widely used as a preservative of pickled fruits, and many of the organic acids common to fresh fruits, are in small quantities and suitably diluted with water valuable additions to our food, but when largely used or taken in concentrated form may be quite injurious. So, too, with common salt. In small quantities it is constantly present in almost all natural food stuffs, and is even essential for life, but in large doses it becomes not only disagreeable but dangerous. Hence, in considering the possible physiological action of such an agent as borax, or any other so-called food preservative, we must give due weight to the relative proportion of the active substance ordinarily present in the food. No doubt this is subject to wide variation, but we may draw some conclusions from the results of quantitative analysis of food products containing preservatives. Quoting again from the report above referred to, we find that of forty-two samples of sausages examined last year at the Connecticut Experiment Station twenty-seven were found to contain borax. In five of these samples the proportion by weight of borax was 0.12, 0.27, 0.30, 0.51, and 0.72 per cent. respectively. Borax was likewise found in opened oysters, the proportion present in four samples examined being 0.44, 0.57, 0.07, and 0.11 per cent. respectively. In one sample of head cheese 0.176 per cent. of borax was found. Salt codfish was likewise found to contain borax, but no quantitative determinations are reported. From these figures we may gain some knowledge as to the proportion of borax that may be present in foods preserved by this substance. Obviously, it would be rare indeed for a daily ration of food and drink to contain 0.5 per cent. of borax.

In our experiments upon dogs, the animals were first brought into a condition of nitrogenous equilibrium, in which the nitrogen of the ingesta practically equaled the nitrogen of the egesta—*i. e.*, the output through the urine and fæces. The diet was a mixed one, containing meat, fat (lard), and carbohydrate (cracker dust), thus affording conditions for the detection of any influence upon the digestibility of the three classes of food stuffs which borax might exert. The first experiment extended through twenty-seven days, being divided into three periods of nine days each—a fore period, a borax period, and an after period. The dog weighed twelve kilogrammes, and the daily food, containing 9.814 grammes of nitrogen, was composed of two hundred and fifty grammes of fresh lean beef, forty grammes of lard, seventy grammes of cracker dust, and five hundred cubic centimetres of water. During the borax period five grammes of borax were administered with the food each day, making a total of forty-five grammes of borax for the nine days' period. This quantity of borax was equal to 1.3 per cent. of the solid food, and to 0.6 per cent. of the total food and drink. The nitrogen of the urine and fæces was determined each day, also the volume of the urine, its specific gravity, total sulphur and phosphorus, uric acid, total and combined sulphuric acid, etc. The fatty, or ether-soluble, matter of the fæces was likewise determined.

A similar experiment with boric acid, extending through thirty days, was also tried. In this experiment boric acid was given with the food for ten days, one to two grammes per day, the total amount administered being 14.5 grammes. With two grammes of the acid per day the mixture of food and drink contained 0.31 per cent. of boric acid, while the dry food contained 0.86 per cent. of the acid.

Lastly, a third experiment was tried, extending through fifty-six consecutive days, during which the variations in the composition of the urine and fæces were followed as before, under the influence of both borax and boric acid. A bitch of ten kilogrammes' body weight was brought into nitrogenous equilibrium, and after a fore period of eight days was fed with borax for eight days, the total amount of borax fed being 32.5

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* *Twenty-first Annual Report of the Connecticut Agricultural Experiment Station for 1897.* Part I. Second Report on Food Products.

† R. H. Chittenden and W. J. Gies. The Influence of Borax and Boric Acid on Nutrition, with Special Reference to Proteid Metabolism. *American Journal of Physiology*, vol. i, p. 1.

grammes. This was followed by a period of eight days without borax, after which boric acid was administered for a like period, seventeen grammes in all. Then came another period of eight days without the preservative, after which borax was fed for eight days in large doses—*i. e.*, eight to ten grammes daily. Finally came an after period of eight days.

By this kind of experimentation, with constant daily analyses of the urine and fæces, with animals originally in a condition of nitrogenous equilibrium and under a diet of known composition, we have followed out carefully the changes which the above doses of borax and boric acid seemingly call forth.

The results obtained clearly indicate that moderate amounts of borax exert no measurable influence upon the metabolism of proteid matter. With dogs weighing ten to twelve kilogrammes a dosage of two to five grammes of borax per day, mixed with their food, is apparently without effect upon those nutritional processes which have to do with the utilization of the proteid food stuffs. The body remains in essentially the same condition of nitrogenous equilibrium as when the food is free from borax. Further, chemical analysis of the excrement shows that with such doses of borax there is no distinct increase in the amount of fæcal nitrogen, thus indicating that the substance does not exert any inhibiting influence upon the digestion or assimilation of the proteid or albuminous foods. Neither, judging from the amount of ether-soluble matter in the fæces, is there any distinct influence upon the assimilation of fat exerted by small doses of borax. Body weight remains practically constant, and there is no evidence of any specific influence upon the general nutritional changes of the body. The only results of any significance which we have found with the above amounts of borax is a tendency for the urine to become alkaline, owing to the rapid elimination of the salt through this channel, and a slight diminution in the volume of the urine during the borax periods.

With larger doses of borax, however, positive evidences of physiological disturbance are found. Thus, with dogs of the above weight (ten kilogrammes) daily doses of eight grammes of borax, equal to 1.21 per cent. of the daily food and drink, or nearly 3.5 per cent. of the food alone, have a distinct stimulating effect upon proteid metabolism, increasing the output of nitrogenous matter through the urine. Coupled with this effect is a pronounced tendency to diminish the assimilation of both proteid and fatty foods, increasing the weight of the fæces and their content of both nitrogen and fat or ether-soluble matter. Further, with very large doses of borax there is a tendency toward diarrhœa and an increased excretion of mucus in the intestinal tract. The presence of 1.5 to 2.0 per cent. of borax in the daily food is very liable to produce nausea and vomiting. Under no conditions, so far as we have been able to observe, does borax produce diuresis. Neither does it tend to increase body weight or protect the proteid matter of the tissues.

Boric acid in doses up to three grammes a day is, so far as we can judge from our experiments, without influence either upon proteid metabolism or upon the general nutritional processes of the body. It likewise has a less disturbing effect than borax upon the assimilation of proteid and fatty matter in the gastro-intestinal tract, the doses of acid mentioned above leading to no increase whatever of either nitrogen or fat in the fæces. Like borax, however, increase of the dosage to 1.5 to 2.0 per cent. of the daily food is liable to produce nausea and vomiting. Unlike borax, boric acid is apparently without effect upon the volume of the urine, showing no tendency, in the doses used, to alter the volume of the secretion. Further, as would be expected, the reaction of the urine remains acid.

Both borax and boric acid are without influence upon the putrefactive processes of the intestine, apparently because of their rapid absorption from the intestinal tract and quick elimination through the urine. Practically, elimination is complete twenty-four to thirty-six hours after the last dose of borax or boric acid has been given. Obviously, this rapid elimination precludes the possibility of any marked cumulative action from the daily ingestion of moderate quantities.

So far as its influence upon proteid metabolism is concerned, it is very evident that when borax is given in sufficient quantity to produce any effect its action is similar to that of common salt—*i. e.*, like sodium chloride, it tends to increase proteid decomposition. This conclusion is in harmony with the results of Gruber * and the statements of C. Voit.† Gruber, moreover, asserts that borax, like sodium chloride, tends also to increase the excretion of water through the kidneys. Any evidence of such action, however, we have been unable to find. On the contrary, all of our results show a slight decrease in the volume of the urine under the influence of borax.

"FETTMILCH."

By E. LIBMAN, M. D.

Of late, Gaertner's milk ‡ has become quite a subject for discussion in this country. Having seen the milk prepared at the original dairy in Gratz, and having seen its use at the clinic of its introducer, Professor Escherich, I have considered it of interest to give a detailed account of its *raison d'être*, the method employed in its manufacture, and the results obtained with it.

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* *Zeitschrift für Biologie*, 1880, Band xvi, p. 198.

† Hermann's *Handbuch der Physiologie*, Band vi, Theil 1, pp. 157 and 164.

‡ The milk is known in Germany as "*Fettmilch*," in this country and England as "Gaertner's mother's milk," and in France as "*le lait maternel.*"

Before going into the question of how the milk is made, it will be necessary to detail the differences between mother's milk and cow's milk and the steps which led to the invention of the new milk.

It was early discovered that unmodified cow's milk could not be adopted as the food for the vast majority of children, and it was early proved that the reason lay in the differences existing in the composition of the two varieties of milk. Later it was found that there existed qualitative as well as quantitative differences, and at the present time, even, we are far from having an accurate idea of the composition of mother's milk and its constituents. The differences usually considered the most important are the larger amount of casein in cow's milk, the relatively smaller digestibility of the casein, and its tendency to coagulate in large lumps. Qualitative differences exist between the caseins (1) of the two varieties of milk, but these are still little understood. Fat exists in both milks in about the same quantity, but differs qualitatively (2). Milk sugar is more abundant in mother's milk, as is also albumin. The ash is greater in cow's milk, but iron is less abundantly present (3). Recently there has been demonstrated a difference in the nucleins (4), and the fact that mother's milk contains more and different extractives (5), especially in the second and third weeks of lactation.

Our knowledge of the qualitative differences has been so limited that little attempt has been made to allow for them in modifying cow's milk. Some have tried to increase the amount of albumin (Backhaus, Rieth, and others (6)); others have tried to add certain necessary salts to the milk when diluted (7). The main attention, however, has always been paid to the casein, fat, and sugar, especially to the first.

The method generally used for diminishing the amount of the casein has been to dilute the milk with water or farinaceous fluids. This, however, created a deficiency in the fat and sugar. According to recent analyses, mother's milk contains,* proteids, 1.52, fats, 3.28, sugar, 6.50, and ash, 0.27 per cent.; and cow's milk contains, proteids, 3.52, fats, 3.2, sugar, 5.0, and ash, 0.70 per cent. Taking the dilution of cow's milk with an equal volume of water, which is very commonly made, the fluid contains, proteids, 1.76, fats, 1.6, sugar, 2.5, and ash, 0.35 per cent. It is thus seen that a dilution of one to one reduces the amount of casein to very nearly that contained in mother's milk, but it gives the child only one half the fat and sugar furnished it in mother's milk. That this diminution in the fatty element of the child's food is a serious loss needs no discussion here, as of the amount present in mother's milk ninety-nine per cent. is absorbed (8). (The sugar is easily added.)

It has been attempted to make up for this deficiency in a variety of ways, some of which have met with more or less success. In one set of substitutes it was attempted to replace the fat by proteids. In a second set the fat was replaced by sugars (9) or farinaceous fluids. The third set tried to bring the fat element itself up to the desired amount, while keeping the casein percentage down.

The main work in the last direction has been done by Meigs (10), in our country, and Biedert (11), in Germany. Their methods have been to add to diluted milk cream obtained by letting the undiluted milk stand until the cream layer rose. This method, however, produced a product liable to great inconsistency in composition, and to infection if it were to be carried out at home. The objections are well summarized by Jacobi (12), who says: "The mixture is too easily influenced by irregularities and by accidents happening to the cream while being obtained, and to the milk-sugar solution, to be proof against frequent failures or to become popular among the masses." To provide products of the same kind free from these objections, there were introduced Münch's and Pizzala's conserves and Lahmann's vegetable milk (6); but these were too expensive for general adoption.

The latest developments in the line of providing the necessary mixture in a simple manner were introduced by Rotch (13), in this country, and Gaertner (14), abroad. Rotch obtains the cream by centrifuging the milk and removing the cream from the top of the fluid. The details of his method are so well and so favorably known that I shall not stop to describe them here. As we shall see, Gaertner produces a milk containing the necessary percentage of fat by a single step, but the product as at present made is not capable of as ready modification as that devised by Rotch; so that, for a certain number of children, it is not as adaptable as Rotch's mixture. (Cf. Jacobi, *Therapeutics of Diseases of Infancy and Childhood,* first edition, p. 451.)

Briefly stated, the ingenious Gaertner method is as follows: Into the drum of a centrifuge (in Gratz the Pfannhauser balance-centrifuge is employed) a mixture of milk and sterile water, equal parts, at the temperature of 30° to 36° C., is allowed to run. The milk is obtained in the most cleanly manner from healthy cows, properly fed. The drum of the centrifuge is revolved four thousand times a minute by hand (or steam). In the course of the revolutions the fat, being in suspension, is driven to the centre of the drum, whereas the sugar, casein, and salts remain uniformly distributed, as they are in solution. Two tubes, which carry off equal amounts of the fluid, enter the drum, one near the centre and one at the periphery. By arranging how near the centre the inner tube opens, milk containing varying amounts of fat is allowed to run off. The fat percentage can further be modified by varying the dilution of the milk and the number of revolutions of the drum.

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* Gaertner in his articles follows Pfeiffer's analysis of mother's milk. Later Heubner (Hoffmann) pointed out that the casein percentage had always been considered larger than it really was, a fact brought forward by Meigs many years ago. I have followed the more recent and very careful analyses of Söldner and Camerer, which also show a lower percentage of casein than do Pfeiffer's analyses.

As ordinarily set, the milk drawn off at the centre has the same amount of fat as mother's milk. It contains, proteids, 1.76, fat, 3 to 3.35, sugar, 2.5 and ash, 0.35 per cent. By adding thirty-five grammes of lactose to the litre (saccharose or glucose can be substituted if desired), we get a milk which is nearer in composition to mother's milk than has before been attained by any simple method. The thin milk drawn off by the tube at the periphery has the following composition: Proteids, 1.76, fat, 0.1 to 0.2, sugar, 2.5, and ash, 0.35. Very exactly made analyses have shown Gaertner's milk to be of a most constant composition (15).

Before going into the physical characteristics of the milk, we must mention the advantages accruing from the centrifuging process *per se*. Firstly, the dirt, which is present in ordinary milk in no inconsiderable amount, is thrown to the outer part of the drum. Part of it is carried off in the peripheral tube; the remainder clings to the wall and is removed after each centrifuging. In the same way the milk is freed from many bacteria. The importance of these points has been emphasized by Rotch (16) and Biedert (17). Viewed in this light, the centrifuging process adds nothing to what should occur to all milk before use, and the Gaertner process is resolved into simplicity itself. Gaertner himself claims a special advantage in his method in that the cream is not first separated from the milk; he claims it remains in better emulsion. (Cf. Biedert, second edition.)

The Gaertner milk is, as can be seen from the foregoing, really no new mixture. It is the Meigs mixture, or Biedert mixture, made more practicable.

The milk looks like ordinary good milk with a thick cream layer. The specific gravity is 1.016, the reaction slightly acid. The taste is agreeable to the majority of children. Either artificially or in the stomach, it coagulates in much finer flocculi than does cow's milk simply diluted. This seems to be due to the relative amounts of the casein and fat (18). The stools after its use are normally frequent, soft, and slightly acid. Microscopically and bacteriologically, they resemble the stools of breast-fed infants. Escherich (19), from observations on his two children, showed that 98.2 per cent. of the fat, 92.5 per cent. of the dried substances, and 71 per cent. of the ash were used up in the system. This compares very favorably with the results obtained with mother's milk, and is better than the results hitherto obtained with other substitutes (20).

Needless to say, Gaertner's milk, like all other milk, should undergo sterilization. At Gratz this is done at the dairy, where the sugar is also at once added. The milk is *sterilized in bottles*, each bottle containing the amount necessary for one feeding. After the sterilization the milk is at once cooled in running water, and then kept cold (under 18° C.) from the time it leaves the dairy till it is used (21).

At Escherich's clinic the bottles are kept in receptacles in which cold water from the faucet is constantly kept running. An overflow tube prevents the water reaching above the necks of the bottles. Before giving the milk to the child, the bottle is warmed in water to body temperature. A simple rubber teat is substituted for the solid stopper, and the milk is ready for use. Whatever the child leaves in the bottle is thrown away.

Although the milk, when properly sterilized and kept cold, is very durable, it *should be supplied fresh daily,* and, at all events, should not be used after it is forty-eight to sixty hours old. It occasionally occurs that on the top of the milk small amounts of butter are seen. These are due to the sterilization, and are especially found when the process is carried out at too high a temperature. The same occurs with any milk rich in fat. (This buttering of the milk may possibly be avoided by sterilizing at 90° to 92° C., which temperature is, according to Koplik (22), sufficient, and then rapidly cooling the milk.)

Taking Pfeiffer's analyses (23) as a basis, Escherich has laid down the following plan as to intervals and amounts (24): Children of two weeks, 16 ounces (500 grammes) in nine meals; children of two to four weeks, 25 ounces (750 grammes) in eight meals; children of four to eight weeks, 33 ounces (1,000 grammes) in eight meals; children of three to four months, 42 ounces (1,250 grammes) in eight meals; children of five to six months, 50 ounces (1,500 grammes) in seven meals. Rigidness in regularity and in amounts (which can, of course, be varied to suit any given indication) is, as in all infant-feeding, a *sine qua non*. In the work done thus far the milk has always been given pure. It seems advisable, however, to dilute the milk with one half its volume, or an equal volume of water, for use for weak children in the first weeks of life.

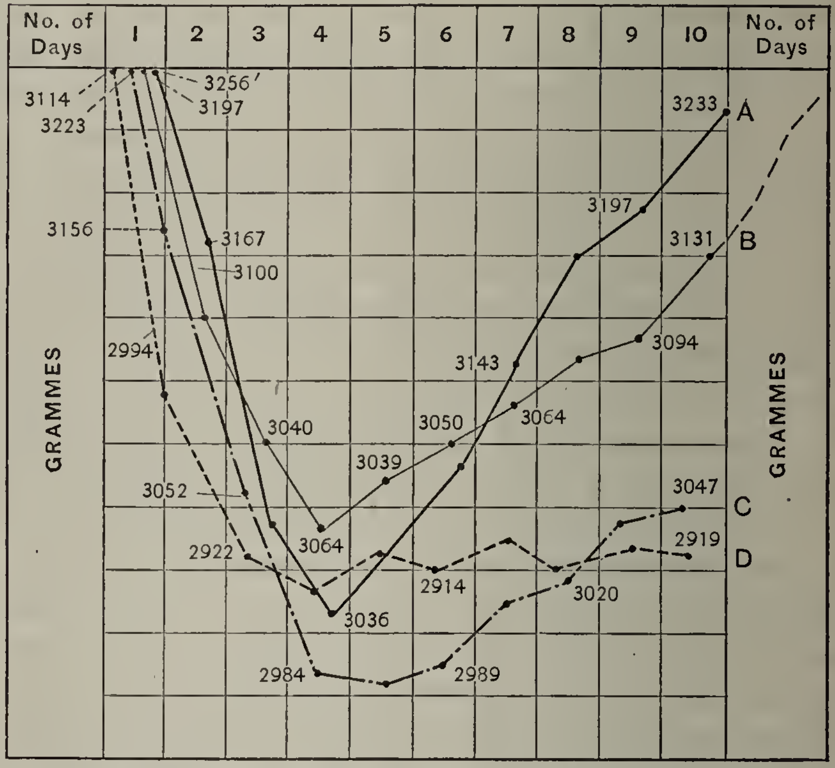
The special indication for Gaertner's milk is, as the substitute for mother's milk, either as the sole diet, where breast milk is unobtainable, or as an addition to the latter when insufficient in amount. The indications for or limitations to its use in disease are not yet firmly set. It is indicated in older children who have to take much milk, but to whom ordinary milk is more or less indigestible. In constipation and in chronic dyspepsia and atrophic conditions it is frequently useful. In acute digestive troubles and diarrhœa it is often contraindicated, as any form of milk frequently is; in the small class of fat diarrhœa (in the true sense) it is absolutely contraindicated. In the former set of cases casein in any quantity is often not well borne (Czerny [25]), and in the latter class of cases the fat itself is a disturbing element.

In reviewing the results reported from the use of the new preparation, we should pay most attention to what it will do in feeding healthy children, as that is its real field. It is only too evident how difficult it is to get an accurate knowledge of the value of a new method of infant feeding. Dispensary reports are frequently misleading, as it is not always possible to control carefully the way in which the *clientèle* use a milk. Observations on sick children in hospitals are also difficult, as house infection with diarrhœa is so common. This fact, known to all accustomed to work in children's wards, has been specially brought forward of late by Heubner (26).

The most convincing work with reference to Gaertner's milk has been done by Keilmann (27), whose results will be later stated. Besides his observations and those of Escherich (28), which latter cover the longest period and relate in large part to sick children, there have been favorable reports from Moser (29) (Frühwald) and Steiner (30), Boissard (31), Johannessen (32), Stooss (33), Hochsinger (34), Feer (35), Grassi (36), and Raczynski (37). Less favorable is the publication by Thiemich and Papiewski (38). Popper's (39) report is distinctly unfavorable, but in the course of the observations the milk was used in severe cases of acute intestinal trouble (*cf.* indications given above), and the time limits were often not adhered to. Thiemich and Papiewski state that Gaertner's milk is no better and no worse than cow's milk as ordinarily used. That the results obtained by these two very careful observers were not better is stated by Gaertner (40) to be due probably to lack of proper sterilization of the milk.

The report of Keilmann is very interesting, as it comes from an obstetric clinic, and the milk was used in healthy infants during the first ten days of life—surely the most trying period in which to feed a child exclusively with a substitute for mother's milk. The following details are taken from his article in the *Jahrbuch für Kinderheilkunde.* His experience covers fifty-five cases, and he compares the results with those he previously obtained in feeding newborn infants with breast milk alone, cow's milk diluted with one part of water alone, or with cow's milk diluted with three parts of water. All the experiments were made under the same conditions. Chart I shows some of the results. As will be seen from it, at the end of the tenth day the loss of weight from the weight at birth was as follows: Breast-milk (average of eighteen children) cases, 23 grammes; cow's milk (1:1) (average of forty-two children) cases, 195 grammes; cow's milk (1:3) (average of sixty-five children) cases, 176 grammes; Gaertner's milk (average of fifty-five children) cases, 66 grammes. Of the last, those that at any time had dyspepsia were on the average one hundred and thirty-six grammes behind. The children on Gaertner's milk (see chart) had less loss of weight in the first few days than those on mother's milk; this was due to the lack of milk in the breasts of many of the mothers in the first few days, and has no further interest.

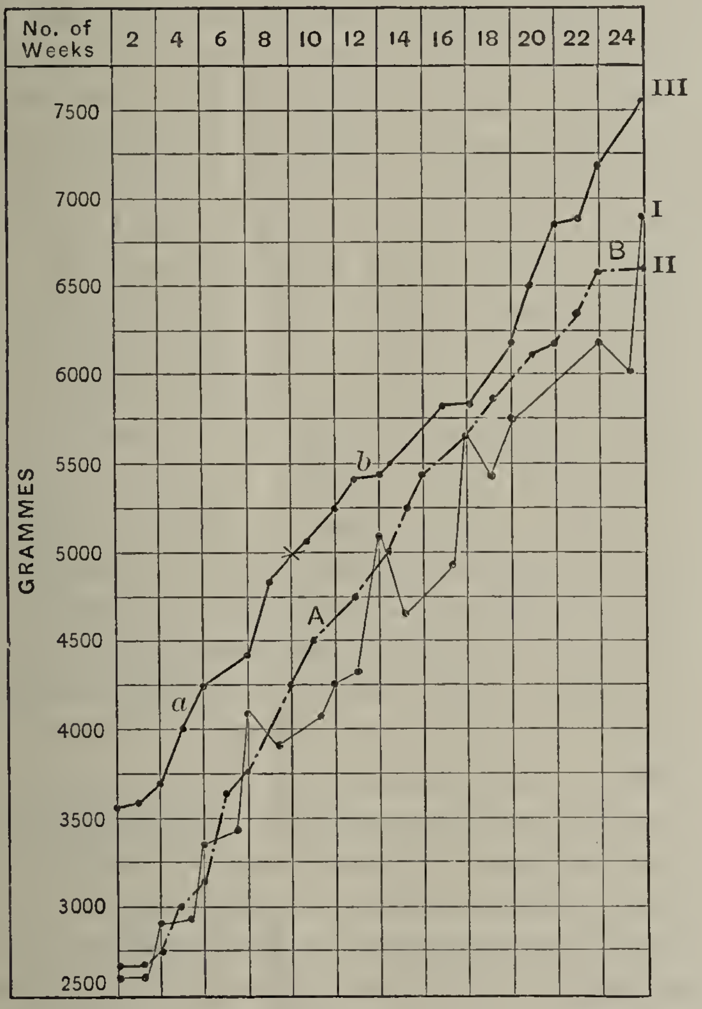
The daily increase in weight in the breast-fed children was 32.8 grammes; in those on Gaertner's milk who were always well, 23.9 grammes; in those on Gaertner's milk who had dyspepsia, 9.3 grammes; in those on cow's milk (average of all), 2.8 grammes; in those on cow's milk (1:3), 9.0 grammes. As to dyspepsia, eighteen of the children on Gaertner's mixture were transitorily sick, twenty-seven were always well. Of these eighteen cases, ten were unwell for one day only; three were unwell two days; two, three days; two, four days; the remaining case was sick five days. Vomiting, especially if combined with restlessness, was considered as dyspepsia. Fourteen of the cases were fed on the milk for fourteen days, and a few up to six months of age, with very good results. The observations were nearly all made in July and August. The milk came in half-litre bottles, already sterilized. It was then refilled into portion bottles, which were sterilized for ten minutes, rapidly cooled, and kept cold.



Curves showing increase in weight of children in the first ten days of life—fed on mother's milk (A), Gaertner's milk (B), cow's milk and water 1 : 3 (C), and cow's milk and water 1 : 1 (D). Curve B represents the average of forty-five cases; curve C, sixty-five cases, and curve D, forty-two cases. Weight noted in grammes.

Feer (35) states that all the acute digestive troubles and diarrhœa contraindicate the use of the milk, but that in convalescence it is very well borne, first mixed with barley water, then used undiluted. Hochsinger (34) resterilizes the milk obtained in bulk in small bottles ready for use. The children thus fed did so well that he says, "One can hardly imagine a better imitation of the normal condition." A very comprehensive report comes from Moser (29), who observed each case at least four weeks. He fed the milk to sick children only, most of the same suffering from dyspepsia or chronic gastro-enteritis, with atrophy. Of nineteen cases, eighteen gained weight; the other case had marked pulmonary tuberculosis. The average daily gain in weight was 11.6 grammes. He lays down the same contraindications as do Escherich and Feer.

Eschrerich's own reports (41) are so well known that I need but refer to the originals. Of special interest are his observations on his own two children, the curve representing which, together with many data, he kindly consented to let me use before their publication in the *Therap. Monatsheft.* (see Chart II). The lowest curve, marked I, is a curve drawn by Camerer (42) to represent the increase in weight as it occurs in a child having an initial weight of twenty-five hundred grammes when brought up on mother's milk. Curve III represents the increase in weight of the older of Escherich's children. This child was fed on the breast for eight weeks, and then on diluted cow's milk. It is to be noted how the line rises less sharply after the child was put on cow's milk. It was only after the child was able to take less dilute cow's milk that the rise again became sharper. Curve II is drawn from observations on the younger child, which was born at eight months and a half, underweighted. This child was brought up on Gaertner's milk practically exclusively. (It received breast milk twice in the first week of life.) When twenty-two weeks old it was taken to the country, where Gaertner's milk was not obtainable, and was therefore put on diluted cow's milk. Up to then the increase in weight had followed Camerer's curve for a breast-fed infant accurately; the increase then became less marked. Of interest is a comparison of the curves of this child and those of the older child, and the lack of irregularities in the rise of the former. (I have omitted the figures stating the exact amounts of milk taken by the two children, as it would make the article too lengthy. They were practically the same as those usually put down in the books for guidance in feeding infants.)



Curves showing increase in weight of E.'s children up to twenty-four weeks of age—*a*, on breast milk; *b*. on diluted cow's milk; A. on Gaertner's milk; B. on cow's milk. Weights indicated in grammes.

Very recently it has been suggested to use the milk for adults. The experience here is very limited. Schütz (43) states that the milk coagulates in finer flocculi in the adult stomach than diluted cow's milk does, and that it is more readily absorbed. He uses it when an exclusive milk diet is necessary and undiluted cow's milk is not well borne. He suggests its use in attempts at fattening cures, and for use in ulcus ventriculi, provided the milk does not too soon cause distaste or bowel disturbances. Riegel (44), from a moderate experience, states that Gaertner's milk is better borne than cow's milk in most persons suffering from stomach disease.

Literature.

1. Schlossmann. *Verhandl. der Gesellschaft für Kinderheilkunde,* 1896.—Jacobi, in Gerhardt's *Handbuch,* second edition, 1882.—Wroblewski. *Mittheilungen aus den Kliniken u. den mediz. Instituten der Schweiz,* II. Reihe, Heft 6.

2. Laves. *Zeitschrift für physiol. Chemie,* Bd. xix, pp. 367–377.—Ruppel. *Zeitschrift für Biologie,* Bd. xxxi, pp. 1–12.

3. Good analyses in Söldner and Camerer, in the *Zeitschrift für Biologie,* Bd. xxx, pp. 43–71, 535–568.

4. V. Szontagh. *Centralblatt für die med. Wissenschaften,* 1893.

5. Béchamps. *Chem. Zeitschrift,* 1891.—Munk. Virchow's *Archiv,* Bd. cxxxiv.—Söldner and Camerer, *loc. cit.*

6. For details, see Biedert, *Die Kindernährung im Säuglingsalter,* second edition, Stuttgart, 1897.

7. Scharlau. *Monatsschrift für Geburtskunde u. Frauenkrankheiten,* 1866, Bd. xxviii.

8. Uffelmann. *Archiv für Kinderheilkunde,* 1881.

9. Heubner. Säuglingsmilch, in *Leipziger Festschrift,* 1891.—Jacobi, *loc. cit.*

10. Meigs. *Feeding in Early Infancy* (Saunders & Co.).

11. Biedert, *loc. cit.,* and earlier edition.

12. Jacobi. *Intestinal Diseases,* p. 32.

13. Rotch. The Value of Milk Laboratories for the Advancement of our Knowledge of Infant Feeding. *Archives of Pædiatrics,* 1894.

14. Gärtner. *Wiener med. Wochenschrift,* 1894 and 1895.

15. Rupp. *Forschungsresult. über Lebensmittel u. ihre Beziehungen zur Hygiene,* 1896, Munich and Leipsic.

16. Rotch, *loc. cit.*

17. Biedert. *Congress für Hygiene u. Demographie,* 1894.

18. Cf. Lehmann, cited in Blauberg. *Studien über Säuglingsfäces,* Berlin, 1897, p. 69.

19. *Therap. Monatsheft,* 1897.

20. Uffelmann, *loc. cit.*—Krauszyst. *Jahrbuch für Kinderheilkunde,* 1885.

21. Flügge. Die Aufgaben der Milchsterilisation. *Zeitschrift für Hygiene,* Bd. xvii.

22. Koplik. *Archives of Pædiatrics,* June, 1891.

23. Pfeiffer. *Jahrbuch für Kinderheilkunde,* 1883.

24. Escherich. *Mittheilungen des Vereines der Aerzte in Steiermark,* No. 1, 1895; *Hebammen Zeitung,* Wien, 1895.

25. Czerny. *Jahrbuch für Kinderheilkunde,* Bd. xli.
26. Heubner. *Säuglingsernährung u. Säuglingsspitäler,* Berlin, 1897.
27. Keilmann. *Jahrbuch f. Kinderheilkunde,* Bd. xli.
28. Escherich. *Verhand. der 11ten Versammlung der Gesellschaft für Kinderheilkunde,* p. 225.
29. Moser. *Jahrbuch für Kinderheilkunde,* Bd. xliii.
30. Frühwald u. Steiner. *Wiener med. Wochenschrift,* 1895.
31. Boissard. *La France médicale,* année No. 33, 1895.
32. Johannessen. *Jahrbuch für Kinderheilkunde,* Bd. xli.
33. Stooss. *Correspondenzblatt für schweizer Aerzte,* 1896, No. 4.
34. Hochsinger. *Wiener med. Presse,* No. 15–18, 1895.
35. Feer. *Jahrbuch für Kinderheilkunde,* Bd. xlii, Heft 2.
36. Grassi. *Estratto degli atti dell' Associazione Medica Lombarda,* No. 2, 1896.
37. Raczynski. *Przeglad Lekarski,* No. 32, 1897.
38. Thiemich and Papiewski. *Jahrbuch für Kinderheilkunde,* Bd. xli.
39. Popper. *Archiv für Kinderkrankheiten,* Bd. xix, Heft 3, 4.
40. Gärtner. *Wiener med. Woch.,* 1896, No. 23.
41. *Loc. cit.* and Escherich. *Wiener klinische Rundschau,* Nos. 3 and 4, 1894.
42. Camerer. *Jahrbuch für Kinderheilkunde,* Bd. xxxvi.
43. Schütz. *Wiener klin. Woch.,* 1896, No. 48.
44. Riegel. *Die Erkrankungen des Magens.* 1. Theil.—Nothnagel's *Handbuch der spec. Path. u. Therapie.*
45. Cahen-Brach. *Die Praxis,* 1896.
46. L. Fischer. *Medical Record,* 1897.

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THE DEVELOPMENT OF THE LUNGS IN RELATION TO THE NEUROTIC THEORY OF PULMONARY CONSUMPTION.

A REPLY TO DR. HUTCHINSON.

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For a number of years I have been a much interested reader of the writings of Dr. Woods Hutchinson, and have often accompanied him in many of his delightful excursions into the realms of biology and pathology, and it is therefore a source of regret to me that my article on Certain Phases of Pulmonary Consumption, etc., published in this *Journal* for September 25, 1897, in which I somewhat criticised his theory of pulmonary disorder in relation to the development of the lungs, should have been misinterpreted by him, and should have called forth his bracing reply, which appeared in the issue of this *Journal* for December 25th of the same year. I believe, however, that the difficulty between us can be readily adjusted as soon as the smoke and fire which have been thus far raised are cleared away.

Dr. Hutchinson imputes to me the belief that the lungs are more ancient biologically than any part of the nervous system. In this he is perhaps justified by the superfluous reference in the third paragraph of my paper to the age of the nervous system in connection with that of the brain. Such a belief I disclaim, however, for I always had the impression that neither a genuine representative of the human brain nor of the lung existed in the invertebrate division of the animal kingdom, and that a discussion of this point would be useless. The one idea I had in view was that the brain and higher nerve centres were later productions than the lungs in a biological sense, and I think the following conclusion of my paper will bear me out in this (fourth paragraph): "It will be seen (therefore) that the lungs, instead of being the youngest organs, biologically speaking, are really among the oldest, and that the brain and higher nerve centres are really the latest and most recent structural form of development in the human body." This I repeat in almost identical language in the closing paragraph; and throughout my paper, by direct assertion and by implication, I endeavored to point out the close relationship that exists between diseases of the brain and the higher nerve centres on the one hand, and pulmonary consumption on the other.

In order that there may be no misunderstanding about my position, I will quote the following from Dr. Haeckel,* a biologist without a peer (page 215). Even in the skull-less vertebrates, in the amphioxus, there is no real brain. In this case the whole central marrow is merely a simple cylindrical cord traversing the body longitudinally, and terminating in front almost as simply as at the other end; it is a simple medullary tube"; and again on page 219: "In the cyclostomi—that is, in the stage above the acrania—the anterior extremity of the cylindrical medullary tube begins to extend, at an early period, in the form of a pear-shaped bladder, which is the first distinct rudiment of a brain. For the central medulla of vertebrates thus first distinctly differentiates into its two main sections, the brain and the spinal marrow. The first faint indication of this important differentiation is discoverable in the amphioxus, perhaps even in the ascidian larva."

It is hardly necessary to recount here that from the skull-less vertebrates to man the first rudiment of the brain is a simple bladder, from which spring the cerebrum, the cerebellum, the oblongata, and the twelve pairs of cranial nerves; but I do this for the purpose of showing the important relationship which the oblongata bears to the general question of pulmonary consumption. For it is this part of the nervous system which gives origin to the great cranial nerves which comprise the respiratory, the circulatory, the convulsive, and the principal heat centres, and which are among those which are designated in my paper as the higher nerve centres.

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* *The Evolution of Man,* vol. ii.

The brain has grown from the insignificant size in which it is found in the lower vertebrates until it has attained the enormous size which is found in civilized man. It is a superaddition to the medullary tube and a new phase of existence in the life history of the nervous system, the evolution of which is still going on and apparently will continue for a long time to come. Fiske says (*Destiny of Man*) that "at birth the brain of a human infant is very much like that of an ape. Its convolutions are shallow and run in very irregular lines, but in the course of a few years they become deeper and more sinuous. New ones also make their appearance. In an adult savage, or in a European peasant, the furrowing is somewhat marked and complicated. In the brain of a great scholar the furrows are very deep and crooked, and hundreds of creases appear which are not found at all in the brain of ordinary men. In other words, the cerebral surface of such a man, the seat of conscious mental life, has become enormously enlarged in area, and we must further observe that it goes on enlarging in some cases into extreme old age."

So much, then, of the evolution of the brain and higher nerve centres, and when we come to consider the lungs in the same relationship it will be found that there is no evidence of the development of a lung, although respiratory organs extend back as far as the vermes, until the division of the mollusca is reached. In regard to lung development in the mollusca, Gegenbaur says (page 338): "A lung is present in addition to a gill in the ampullaria as well as in onchidium, although in the latter the lung also has a renal function." The lung in the molluscs can not be regarded, however, as a true lung, because it arises from the walls of the mantle cavity and not from the anterior part of the intestinal surface, as is the case with the real lung from the lower vertebrates on. From the dipnoi upward the lung develops rapidly and reaches a high state of perfection both in structure and in function long before the period of man. In the human subject, barring the change in the epithelial structure of the alveoli during early infancy, the lungs are fully matured at birth, and discharge the function of respiration perfectly well.

At no time in life do the lungs reach a higher state of structural or functional perfection than they possess at birth or shortly after. Indeed, there is much evidence for believing that owing to a life incidental to a higher civilization there is a tendency toward a lessening of the size of the lungs. In other words, the large lung surface necessary to our physically active and vigorous savage ancestors becomes a redundancy when it is transmitted to our higher civilization, in which everything tends to produce a condition of physical inertia. Professor Mosso has well shown that we possess a lung capacity which is nearly a fourth greater than we actually need to carry on the necessary functions of life, and owing to this want of a demand of breathing surface on the part of our bodies there is actually a diminution in the size of our respiratory organs. For Waldenburg * observes that the vital lung capacity is smallest in persons who lead sedentary lives, such as professional men, students, clerks, etc., and is greatest in those who follow outdoor occupations, such as sailors, recruits, etc. Darwin † states that the lungs in improved herds of cattle, which naturally take little exercise and are domiciled much of the time, "are found to be considerably reduced in size when compared with those possessed by animals having perfect liberty."

Now, then, when we come to contrast the development of the lungs with that of the brain and the higher nerve centres, we find a clearly divergent course between the two. We have seen that the lungs attain their highest point of structural and functional perfection during the early stage of human infancy, and that after this period there is in all probability not only a standstill in their evolution, but a natural tendency toward a limitation of the career of these organs. On the other hand, the human brain is not matured at birth either in structure or in function. Although ninety per cent. of its weight has been attained at the age of seven (Boyd), its functions, excepting those of a reflex nature, like breathing, sucking, crying, etc., which come from its basal portion, practically lie dormant during the early portion of this period, and according to Clouston do not arrive at perfection until the age of five-and-twenty is reached.

Admitting then, as I think Dr. Hutchinson does, that an organ is most liable to disease when it is undergoing maturation, either structurally or functionally, it is clear why during the greatest age prevalence of pulmonary phthisis—*i. e.*, between twenty and thirty years—the nervous system is more vulnerable to disease than the lungs, and that the lungs should become involved in disease at this time, not on account of any innate weakness, but because the integrity of its great supplying nerve—the pneumogastric—which binds it closely to the higher nervous centres, is undergoing deterioration.

The point raised by Dr. Hutchinson, that the pneumogastric theory of phthisis fails to explain why only the pulmonary branches of the pneumogastric, and why not some other cranial nerves, are liable to disturbance in this affection, is hardly tenable; for clinical facts show that besides the lungs, every organ that is supplied by this nerve is involved, as is evidenced by the laryngitis, by the rapid and irritable heart, by the poor appetite and weak digestion, by the tendency to intestinal disorder, etc., all of which are well-known accompaniments of phthisis. Whether other cranial nerves are similarly implicated in this disease I do not know, but the difficult deglutition which is not very infrequently observed may be caused by an impaired hypoglossal nerve. Then, too, there are clinical symptoms which indicate that some of the other cranial nerves are involved, and I have no doubt that if this part of the subject were thoroughly investigated tangible evidence of this could be elicited.

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* *Pneumatische Behandlung Respirations- und Circulations-Krankheiten*, S. 119.

† *Animals and Plants*, etc., vol. ii, p. 361.

ENCEPHALOPATHIES CONSEQUENT ON INFLUENZA.

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It is a very well known fact that the nervous system is very sensitive to the effects of influenza; there is not one case of grippe without cephalæa or an overfatigued feeling all over the body; but besides these symptoms, which are, so to say, a general rule, grave manifestations were also observed in many cases—viz., meningitis, myelitis, neuritis, and persistent troubles of the heart and lungs. The evolution and the treatment of these phenomena present great interest.

The frequency of such cases is perhaps greater than is generally believed.

The first authors who busied themselves with the nervous complications of influenza were Johannsen (1) and Pawinski (2).

Johannsen describes a transient paresis of the right superior member with cyanosis; also he attributes to the grippe a gangrene of one foot of the same patient, which occurred some time after. Pawinski observed tachycardia caused by a weakening of the vagus.

Lumbrose, of Florence, reports eight cases of meningitis with two complete recoveries, two recoveries with some remainder, and four deaths. His treatment consisted of revulsives on the neck, iodide of potassium, and electricity.

Fürbringer (3) reports two cases of hæmorrhagic encephalitis following influenza: in the first patient (twenty-seven years old) he found symmetrical foci in the convolutions; in the other case, that of a patient of thirty-two years, he observed an almost complete destruction of central ganglia. The same author observed in one case a suppurative meningitis, with myositis and hæmorrhagic nephritis. Two other patients presented meningitic symptoms and recovered.

In England, Savage (4) is of this opinion, that nervous complications are more frequent in influenza than in continuous fevers, and the consequences of the first are different from those of the fevers. They are similar to those of diphtheria. Insomnia is a state with which Savage met very often, then came neuralgia, paralysis being general, paraplegia of the inferior members, also paralysis of the bladder and rectum. Moreover, he observed delirium, acute mania, and even hallucinatory insanity. Melancholy was very often observed by the author.

Teissier (of Lyons, France), Roux and Pittion (5), who have studied especially the various manifestations of grippe, think that the nervous form of influenza is characterized by vertigo, more or less intensive cephalæa, moderate fever, and rhachialgia. As complications they observed hyperæsthesia and delirium, which together with rhachialgia they attribute to the influence of the toxines upon the cerebro-spinal axis. Among the different manifestations of the grippe Teissier points out the peripheral nervous troubles, and generalized polyneuritis is, according to him, not very rare. Tachycardia is one of the functional troubles which might kill the patient.

Joffroy has observed psychical troubles in the course of influenza.

Gaucher and Sevestre have described a pseudomeningitis resembling very much a real meningitis. Also Krannhals (6) has reported several cases of pseudomeningitis which he considered as cerebral manifestations of influenza. Leyden, Ewald, Séglas, Pflüger, and Cornil have published many cases of encephalopathies of grippal nature, which all ended in recovery.

The classifications of the nervous troubles in *la grippe* could be made either according to the part of the affected nervous system, as central, peripheral, and sympathetic, or according to the degree of the intensity of the disease, as the mild form, the form of medium intensity, and the grave form.

It is not always an easy task to explain clinically the encephalopathies from the effects of the grippe. In fact, the nervous troubles in this malady resemble those of various infectious diseases, such as tuberculosis, typhoid fever, malarial disease, meningitis caused by the pneumococcus, and cerebro-spinal meningitis. Nevertheless, there are certain symptoms which help to make the diagnosis. In the first place an epidemic is observed, then comes the onset, which is sudden, with absence of morbid antecedents and the presence of albumin in the urine. There is one important symptom which I have never failed to observe in influenza—*i. e.*, the increased frequency of the pulse, which is rather slow in encephalopathies of other origin. But it is not always possible to have this distinction. Sometimes a mild case might turn to a grave one, and then a difficulty arises as to whether the observed cerebral symptoms are due exclusively to the influenza or to some more serious disease. Then we have but one way of making the diagnosis—*i. e.*, through bacteriology, which can say the last word. An immediate examination of the blood in case of influenza shows us among the corpuscles diplobacilli, which are extremely movable, and the greater the number the more serious is the malady. Studied in their cultures, they are seen to take on an aspect of true bacilli, and afterward that of streptobacilli. Inoculated in rabbits in the state of cultures, they produce a malady analogous in every point to *la grippe* (elevated temperature, collapse, albuminuria, general troubles, emaciation, and sometimes death). At the autopsy one finds the pathogenic agent in all the organic humors and in all the organs, the brain included. Other cultures taken with the microbe of the affected organs reproduce the same malady.

In order to explain the various nervous accidents taking place in the course of influenza, and also the grave cases where the macroscopic lesions have had no time to take place, we must suppose a rapid or a prolonged poisoning of the system with the toxines of the micro-organism. Also we must think of the effect on the nervous system of the urinary excretion, which is almost always abnormal. The lesions are various, according to the degree of intensity. In very serious cases one notes at the autopsies especially congestion; the veins are overfilled with blood, as are also the vessels of the pia mater; the cortical substance is covered with hæmorrhagic points and slightly softened. One finds on the convexity and on the base an exudate. The ventricles are dilated and filled with liquid. While in tuberculous meningitis the lesions are localized principally at the base, in influenza they are rather on the convexity. The following are the two cases which I observed in February, 1897:

Case I.—Mrs. Ch., American; white; came to the dispensary on account of dysmenorrhœa. On the following day I received a note from the patient, asking me to call. I found the patient with a violent headache taking place in the night. The headache was localized in the region of the temples and occipital region. The patient was agitated. She vomited since 10 A. M. Did not sleep the whole night. Her temperature was 100.5°. Two days after I noticed a certain degree of paresis of the right arm and limb. The patient complained of the persistent headache and of a pressing feeling in the region of the heart. At examination I found tachycardia. Also the patient complained of retention of urine. I catheterized her and found in the urine a notable quantity of albumin. Under the influence of an exclusive milk diet and lactate of strontium in doses of a drachm every other day, the albumin disappeared from the urine on the twelfth day. The rest of the treatment consisted of complete rest in bed and the administration of chloral in daily amounts of twenty-two grains. I wished in this case to have recourse to baths, but the circumstances of the patient did not permit of it; so I advised the use of wet sheets three times a day instead of baths. The patient made a full recovery.

Case II.—Mrs. J., colored, thirty-five years old, was under my treatment for vaginism for three weeks. The last time I saw her at my office I noticed a change in her aspect. In fact, she complained of a severe headache, rhachialgia, and complete insomnia. I advised the patient to go immediately to bed and take antipyrine. On the following day she felt slightly improved. I put her on a milk diet, because her urine contained albumin. Her temperature was 99°, but in the evening it rose to 103° and she was delirious. Wet sheets were used during the night every two hours, and by the next morning an improvement took place. Antipyrine was continued, also milk diet; strontium lactate was added. Her temperature on the third day was 100° in the evening. What was striking in this case was the contracture of the lower extremities, which took place on the fourth day and relaxed only after the use of chloral in thirty-grain doses during two days.

The patient made a very slow but full recovery in twenty-eight days.

References.

1. O. Johannsen. Gangræna pedis post influenzam. *St. Petersburg med. Wochenschr.*, 1890, No. 6.

2. J. Pawinski. Ueber den Einfluss der Influenza auf das Herz. *Berl. klin. Wochenschr.*, 1891, Nos. 28 and 29.

3. Fürbringer. Zur Kenntniss schwerer organischer Hirnleiden im Gefolge von Influenza. *Deut. med. Woch.*, 1892, No. 3.

4. Savage. Influenza and Neurosis. *Journal of Nervous and Mental Diseases*, July, 1892.

5. Teissier, Roux, et Pittion. Sur une nouvelle diplobactérie pathogène du sang et des urines de malades affectés de la grippe. *Semaine médicale*, 1892, p. 129.

6. H. Krannhals. Zur Casuistik meningitisähnlicher Krankheitsfälle, etc. *Deut. Arch. f. klin. Med.*, liv, 1.

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A CONTRIBUTION TO
THE STUDY OF TETANUS.

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I was lately called to see a man, thirty-two years of age, who six days previously had received a rifle-shot wound at the upper end of the tibia, without involving the knee joint.

A 44-calibre Remington rifle bullet used by our army, after passing through the shoe and heel of another man, fractured the tibia of my patient and caused an enormous, ugly-looking wound.

The accident happened on the 18th of September, and during the eight days following no treatment had been followed beyond covering the wound with rags saturated with camphorated oil.

When the patient was placed under my care I found the following appearance and symptoms: An emphysematous swelling extending up above the knee and downward to about four inches above the ankle joint; black, ragged edges of a suppurating, foul-smelling wound; brownish-red skin about four inches around the wound; temperature, 102° F.; full, rapid, strong pulse, 98 a minute; general condition good.

I lost no time. I chloroformed my patient. I had the field of operation well washed, cut off whatever tissue I thought gangrenous, took out loose pieces of bone, extracted two fragments of the bullet, curetted, and washed the wound. I made several incisions in the skin in order to obtain free exit for pus that had accumulated under it, and put a wet dressing around the leg.

A few hours after the operation I noticed a slight spasmodic contraction of his foot. I remained by the bedside until I had observed several regularly periodical contractions. On interrogating the family I was informed that they had noticed the same thing a few days previously.

The temperature, pulse, and other symptoms improved uninterruptedly; but the contractions were increasing in severity, frequency, and extent, so much so that on the 5th of October, believing the cause to be pressure on the popliteal nerve, I cut it. On the following day, instead of the foot and leg, the thigh was the seat of the contractions, now too severe to be borne. At intervals a profuse perspiration broke out. Chloral and chloroform were the only means of checking the spasms for some hours. As the patient was losing strength and I was not yet convinced I was dealing with a case of tetanus, I performed an operation at the middle third of the thigh, but to no avail. A few days later the abdominal muscles became tense, and an obstinate constipation came to add misery to the sufferer, and almost filled me with disappointment. The patient became delirious several times, but soon afterward a change for the better set in. The stump did well at all times. The improvement and convalescence were rapid, and by the end of October my patient was well.

The peculiar features, rather puzzling to me, are: the absence of trismus, episthotonus, and spasms of any muscles above the abdomen, the unilateral spasms, and the long duration of the disease—about forty days.

AN INTERESTING CASE OF CARDIAC DROPSY WITH PECULIAR COMPLICATIONS.

By JOSEPH A. SILVERMAN, PH. G., M. D.,
BUTTE, MONT.

On a Saturday in October I received an urgent call to see Mrs. W. Upon questioning the patient I received the following history: She was fifty-three years of age, had been married three times, and had borne eleven children, the youngest of them being then fifteen years old. The present trouble had begun six months or more previous to this time, with severe pains in the hypogastric region, which I ascribed to a pelvic peritonitis, and which after a time left her. She confessed to having been a heavy drinker at one time, but solemnly declared she had not taken a drop for six years. About six months previous to my being called she began to get short of breath after heavy exercise, and soon after was troubled with dizziness and fainting spells. Shortly after she noticed a small "tumor," as she called it, had begun to grow in the left inguinal region, which had gradually grown larger up to the present time, causing her to lie on her left side constantly, for she suffered severe pains whenever she tried to lie on the right side. She had often had retention of urine, followed by severe symptoms of uræmia. In three of her accouchements she had been assisted by neither doctor nor midwife, and had given birth to a child one day and done a hard day's washing the next. She had had the attention of five doctors previous to calling me, and they had made a diagnosis of "dropsy of the heart." Upon physical examination I found the heart sounds very indistinct and weak, and the pulse very rapid and soft. Upon percussion I found the left ventricle much dilated. There was much œdema of the left breast and of the left side of the abdomen, very much resembling a tumor or growth of some kind, and the left leg and ankle were also much swollen, the right ankle being slightly so, but nowhere else on the right side was there any indication of œdema. Upon percussion I found the area of dullness was changeable with the position of the patient; this, with a slight fluctuation, made me sure that there was fluid in the abdominal cavity. Upon vaginal examination I found an old and neglected laceration of long standing, and that the uterus was much prolapsed and very firmly adherent on all sides. Upon analysis the urine was found to be normal, except in quantity. I made a diagnosis of dropsy due to dilatation of the heart, but said that I suspected some disease of the uterus and ovaries, and was granted permission to make an exploratory incision, as I thought the inflammation caused by the operation would cause a quantity of the fluid in the abdominal cavity to be absorbed and give some relief, and all the attending physicians were agreed that the patient must die in a short time. I also wished to satisfy myself regarding a malignant disease of the uterus or annexa. I had the patient immediately removed to the hospital and on the following Monday the operation was done.

As the condition of the heart prohibited the administration of chloroform, I was compelled to use ether, for the administration of which, under such difficult circumstances, I am indebted to Dr. E. E. Doty, of Gebo, Mont. An incision about four inches long was made in the "linea alba," commencing about an inch below the umbilicus. After stopping all hæmorrhage I buttonholed the peritonæum, when a large quantity of serous fluid escaped—about a gallon and a half, I should say. After having taken all the fluid from the cavity and enlarged the wound, I inserted my hand and made a thorough examination of all the organs, all of which were normal, with the exception of the liver, which was slightly enlarged, and the uterus, on the fundus of which I found three small and very suspicious nodules, which I was sure were or would soon become malignant. I also found the uterus firmly bound down on all sides by adhesions, so that it was impossible to feel the ovaries. I also found a large cystocele, which I had detected on my vaginal examination.

The condition of the patient at this time was such that to attempt to remove the uterus would have been fatal, so the peritoneal cavity was made as aseptic as possible and the wound closed, the peritonæum and fascia of the muscles with catgut, and the superficial structure with silkworm gut, with no drainage. At no time after the operation did the patient have a temperature above 101° F. I removed the stitches on the seventh day and found the wound had healed by first intention. On the tenth day the patient was up and had entirely recovered from the operation, but she subsequently died from the heart trouble. The dropsy appeared to a very slight extent after the operation, but caused the patient no great inconvenience. Although this is not an unusual case, I think the complications attending it make it very interesting, and so report it.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Obstetrics and Gynæcology, on Tuesday evening, the 22d inst., Dr. H. D. Ingraham was to read a paper on The Ætiology, Pathology, Diagnosis, and Treatment of Myofibroma of the Uterus.

A CASE OF INOCULATION TUBERCULOSIS AFTER CIRCUMCISION.*

By MARTIN W. WARE, M. D.,

ATTENDING SURGEON TO THE GOOD SAMARITAN DISPENSARY, NEW YORK.

FOLLOWING in the wake of Koch's epoch-making discovery of the tubercle bacillus and of his successful inoculation of it in animals, producing lesions identical with those of human tuberculosis, came the corroboration of surgeons that clinically there could also be recognized a primary tuberculosis, the result of inoculation with matter contaminated with tubercle bacilli.

It would be foreign to this paper to enumerate the various modes of infection. The greater number resulted from contamination with phthisical sputum, and of the fifty cases rightly recorded in literature as tuberculosis inoculations, twenty-one followed the ritual circumcision of infants as practised by orthodox Hebrews.

Incidentally I would acquaint the reader (1) that the Mosaic law prescribes that the final act of the operation, hæmostasis, be performed by the operator sucking the wounded surface. Upon such a procedure, presumably performed by a phthisical operator, the history of my case is dependent.

C. M., an infant three months of age, born of healthy parents, was circumcised according to the ritual when one week old. About two weeks later the mother noticed that the wound was still open, with considerable inflammation about it and a swelling in either groin. After another two weeks of waiting the infant was brought to the dispensary, syphilitic inoculation was diagnosticated, and the infant accordingly put under the Widerhoffer antisyphilitic treatment for two weeks. At the expiration of this time the glands in the inguinal region of either side showed signs of fluctuation, and Dr. Koplik, regarding it as an initial lesion with mixed infection, referred the infant to me for surgical treatment. At this stage the infant appeared well nourished and had a rectal temperature of 103° F. Alongside of the frenulum præputii was an ulcer with irregular edges, a base of flabby granulations, and scant secretions; extending from this ulcer into the lividly infiltrated prepuce were several small yellow nodules strongly suggestive of lupus. The inguinal glands on either side, the right more so than the left, were greatly enlarged, matted together, tender, and fluctuating, and the skin over them was of a livid red.

The ulcer near the frenulum was curetted, the buboes were incised, and an ounce of bad-smelling pus was evacuated. Within the next two weeks the wounds were dressed daily with acetate of aluminum, and throughout this time antisyphilitic treatment was continued.

It was now noticeable that the granulations from the inguinal glands were exuberant and flabby, and the secretion was watery and containing flocculi. The skin about the wounds became livid and boggily infiltrated; the entire penis, too, became enlarged, and on its dorsum a lymphangeitis developed, starting from the small yellow nodules. The diagnosis of inoculation tuberculosis was now substituted for that of syphilis. This was concurred in by Dr. Koplik, and subsequently confirmed by the microscope.

The sections were obtained from the inguinal glands and distinctly showed miliary tubercles, with giant cells for a focus, and the reticulated tissue and epithelioid cells about them; there were also large areas of coagulation necrosis. Numerous attempts to stain the tubercle bacilli by various methods were not successful. As I suggested further operative interference, the parent resented it, and the case passed from my observation.

The fate of these cases may be judged from the twenty-one cases thus far recorded in literature.

Lindemann (2) first reported two cases of this kind. The operator was a descendant of an exquisitely tuberculous family, and died two months after infecting these persons, of phthisis and tuberculous enteritis.

R. S., born of healthy parents, circumcised when eight days old. The greater part of the wound healed kindly within two weeks, save an area near the frenum, with irregular edges and cheesy base, in which miliary tubercles could be seen. The ulcer healed under antiseptic treatment, but the buboes had to be incised and pus and cheesy matter were evacuated. Recovery followed, but at the age of three years spondylitis developed with compression myelitis and death from phthisis.

L., same ulcer as above and glandular enlargement. Under treatment the ulcer healed and the adenitis subsided. When a year old had a cold abscess over the wrist.

Lehmann (3) reports ten cases, all inoculated by the same operator, who subsequently died of phthisis. Six infants died—three of tuberculous meningitis, one of marasmus after suffering a loss of the entire skin investment of the penis from gangrene, one of sepsis, and one of an intercurrent disease, diphtheria.

Both authors first diagnosticated syphilis, subsequently tuberculosis, because a rigorous antisyphilitic treatment met with no response, no roseola appeared, and the primary ulcer appeared between the eighth and twelfth days, unlike the period of incubation of the initial lesion of syphilis, and, finally, both operators died of phthisis. These cases were encountered in 1873 and 1879 respectively, at a time when the idea of the infectious nature of tuberculosis was presumptive, yet from the accurate clinical descriptions there can be no doubt of the diagnosis, though not substantiated by the microscope.

Hofmokl (4): Infant circumcised when eight days old. Seven weeks later still there was an ulcer alongside the frenum and bilateral suppurating adenitis. No tubercle bacilli were found in the pus. Antisyphilitic treatment was without effect. Subsequently the ulcer was curetted and the glands were extirpated. Sections of the latter examined by Professor Weichselbaum showed tubercle structure, and the bacilli could be stained. This patient recovered.

Elsenberg (5): S. P., aged five months. Ulcer near the frenum, with infiltration extending into the prepuce. Inguinal glands particularly large, overlying skin livid, boggy, and perforated. The discharge from the sinuses was watery and contained flocculi. Another abscess behind the mastoid. A long treatment with mercurials. The wounds did not heal and secreted profusely. The temperature rose to 104° F., and death occurred from sepsis. The author has reported three other cases (6) not fatal. No post-mortem was granted, but sections of the prepuce and glands showed both bacilli and tubercle tissue.

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* The patient was presented at the Metropolitan Medical Society, and the specimens were shown at the Pædiatric Section of the Academy of Medicine.

Willy Meyer (7): Infant born in Roumania, ritually circumcised; came to this country when seven months old. To judge from the parent's story, the child had had the benefit of antisyphilitic treatment throughout this time, yet it was given a further trial for one month. No change took place, and three months later extensive removal of all the diseased areas was practised. Recovery. The specimens, microscopically examined, revealed tubercle tissue and bacilli.

Karewski (8) is credited with having seen three cases, in one of which the patient died of sepsis.

In consideration of the large number of fatalities in the cases cited above, it suggests itself that an early diagnosis is called for. To distinguish it from syphilis, with which it in every instance was confounded while it was making its ravages, a specimen from the diseased area ought to be submitted to the microscope, and once tuberculosis is recognized, the primary ulcer with the remnant of the prepuce is to be excised and the glands should be extirpated.

Bibliography.

1. Remondino, P. C. *History of Circumcision from the Earliest Time to the Present,* 1891.

2. Lindemann. Ein Beitrag z. Frage v. der Contagiosität der Tuberkulose. *Deut. med. Wochenschrift,* 1883, No. 30.

3. Lehmann. Ueber ein Modus d. Impftuberkulose beim Menschen. *Deut. med. Wochenschrift,* 1886.

4. Hofmokl. Ein Fall v. tuberk. Geschwür nach d. Circumcision. *Wiener med. Presse,* 1886, No. 22.

5. Elsenberg. Inokulation der Tuberkulose bei einem Kinde. *Berl. klin. Wochenschrift,* 1886, No. 35.

6. Elsenberg. *Centralblatt f. Bakt. u. Paras.,* Bd. ii, p. 557.

7. Willy Meyer. Ein Fall v. Impftuberkulose in Folge ritueller Circumcision. *New-Yorker med. Presse,* June, 1887.

8. Loewenstein. Die Beschneidung im Lichte d. heutigen med. Wissenschaft. *Archiv f. klin. Chir.,* Bd. liv, 1897.

1198 LEXINGTON AVENUE.

Therapeutical Notes.

Chloroform as an Anthelminthic.—Carratu (*Giornale medico del regio esercito; British Medical Journal,* December 4, 1897) draws attention to the value of the internal administration of chloroform in cases of tapeworm. He reports seven cases in which it was eminently satisfactory after the common anthelminthics had failed. The patient is put on a moderate diet for two days, but not made to fast, and then, in the course of eight hours, he takes from forty-five grains to a drachm of pure chloroform in syrup, a quarter of it at each dose and a dose every two hours. After that a dose of castor oil is taken. In the author's cases there were no symptoms of poisoning or any unpleasant effects. This treatment is said to have been described by an American writer in 1888.

Uranium in the Treatment of Coryza.—The *Revue médicale* for January 26th gives the following formula:

℞ Uranium acetate.......... from 1 to 2 parts;
Distilled water..................... 20 "
M. Two or three drops to be snuffed up daily.

The Use of Thiol in Certain Diseases of Women and Children.—Fürst, of Berlin (*Die ärztliche Praxis,* 1898, No. 2), gives a summary of his experience with thiol in cases of fissure of the nipple, incipient mastitis, varicose dermatitis of the leg, pruritus vulvæ, intertrigo (beneath the breasts, at the side of the vulva, in the groin, and on the perinæum), non-specific inflammatory swelling of the vulvo-vaginal gland, eczema, irritation of lymphatic glands, excoriation of the navel, mastitis neonatorum, ulceration following vaccination, prurigo, impetigo, psoriasis, acne, erysipelas, burns and scalds, and frostbite. The results in almost every instance were excellent. The remedy was employed in various forms for topical application, such as liquid thiol pure, or with five per cent. of glycerin, or with ninety per cent. of flexible collodion; liquid thiol with ninety per cent. of boiled water for wetting compresses; equal parts of dry thiol and talc (rarely pure thiol) as a dusting powder; thiol with ninety per cent. of vaseline as an ointment; and in the form of Eichhoff's five-per-cent. neutral thiol soap.

Adonis Vernalis in the Treatment of Epilepsy.—Tekoutief, of St. Petersburg (*Revue neurologique; Journal de médecine de Paris,* February 6th), reports the case of a boy, ten years old, who had suffered severely with epilepsy for two years. He had from fifteen to twenty fits a day, his mind was notably enfeebled, and there was muscular paresis. He was treated with Bechterew's preparation:

℞ Infusion of adonis............. 2,700 grains;
Codeine........................ 6 "
Potassium bromide............. 60 "
M.

The boy took from five to seven tablespoonfuls daily at first, and in a few weeks the amount of adonis was doubled. The attacks diminished in number and severity and finally ceased altogether. His mental and bodily condition became normal again.

A Powder for Vaginal Dressings.—The *Journal de médecine de Paris* for February 6th attributed the following formula to Lucas-Championnière:

℞ Iodoform,
Powdered benzoin,
Powdered cinchona,
Magnesium carbonate saturated with oil of eucalyptus,
} equal parts.
M.

Cocaine in the Treatment of the Coryza of Infants.—Naegeli-Akerblom (*Therapeutische Wochenschrift,* 1897, No. 51; *Medicinisch-chirurgisches Central Blatt,* January 28, 1898) recommends this formula:

℞ Cocaine hydrochloride............. 2 parts;
Distilled water,
Glycerin,
} each............. 50 "
M. One drop is to be instilled into each nostril three or four times a day.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
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Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, FEBRUARY 26, 1898.

ELEVATION, NOT ELIMINATION.

"We are credibly informed that a movement is now under way in the medical faculties to secure a modification of the law—a modification which shall mean for medical education in this State its elevation, not its elimination," says the *American Veterinary Review* for February, in an editorial entitled The Future of Veterinary Education in New York State. Notwithstanding the restriction in its title, the article deals with the broad subject of medical, dental, and veterinary education in the State of New York. It may be somewhat pessimistic, but to our way of thinking the article contains much that may well be pondered by those who concern themselves with medical legislation and are dominated by the examination mania. The *Review* is commenting on a letter from a hopeful correspondent who had written: "While the forty-eight-count requirement is almost prohibitive at present . . . I have faith that in time matters will adjust themselves, and that the law will prove itself a great boon to the profession in New York." The *Review* quite agrees with its correspondent that "matters will adjust themselves"—in fact, it says, they are very rapidly undergoing the process of adjustment, to the end that students are being driven out of the State. To sustain this statement, the *Review* says that it has been told that a dental college in the State which normally has about five hundred students has this year about a hundred and thirty-five, while an institution of the same character in a neighboring State which formerly had fewer students than the New York school has nearly a thousand this year.

It is said, says our contemporary, that it is easier to pass the board of examiners for the license to practise than it is to pass the regents to enter the schools. This, it thinks, means that students will prepare themselves for the examiners in other States, and it deduces that our "near-sighted law-framers" have failed to raise the standard of education, but have merely decreed that young men shall not be taught the medical sciences in this State. It sees disaster for the medical schools impending unless the representatives of the schools act with promptness, decision, and effect.

While we have no knowledge of facts going to show that disaster is impending over our medical schools in consequence of too rigid requirements on the entrance examination, we are quite prepared to concede that the examination keeps out of the State a number of young men who are naturally well qualified for a medical career, and to that extent impairs the resources of the schools that are not endowed without answering the prime purpose of providing for the suitable professional training of such young men. The examination, from all we can find out, tests only a man's memory, or chiefly that—takes cognizance of the extent to which he has been able to "cram"—but fails almost entirely to elicit anything in regard to his intelligence, his ingenuity, or his common sense, qualities that go much further in the making of a man than the ability to conjugate a Latin verb or to name the capitals of a number of States.

TANTUM SUPPLICIUM.

We beg to present our compliments to Dr. Thomas M. Riddick, of Woodville, North Carolina, and to bear testimony to the judicious mingling of pathos and humor with which he depicts the shortcomings of the medical man as a business man. Dr. Riddick's article is printed in the February number of the *North Carolina Medical Journal.* He first quotes some lines, said to be "paraphrased from McBeechy," indicative of the predicament in which the doctor is likely to find himself if patients "won't pay up what is due"; lack of funds prevents him from providing himself with new trousers, and the patches on the old ones are getting bigger. The lines conclude as follows:

"Bring your cash, however small,
Or when snows of winter strike us
We shall have no pants at all."

Such a thought, says Dr. Riddick, "causes chills of nervous origin to make competitive foot-races up and down our spinal ridge." Every humane heart, he thinks, must feel the spectacle of a doctor without trousers to be revolting and incomprehensible. He asks:

Quis est homo qui non fleret
Bonum doctorem si videret
In tanto supplicio?

When one realizes, says Dr. Riddick, what a "shield and buckler" and "very present help in trouble" the good doctor is to a suffering patient, how he alone has that *scientia,* or professional gift, by which pain may be relieved in the hour of agony, fears allayed, and a new lease of life given by the removal of morbific causes that are actively at work dealing out wretchedness and threatening death, it is a matter of surprise as well as regret that the rank and file of humanity are not more thoroughly aroused to an appreciative sense of the physician's usefulness and worth as a member of the body politic. Yet, he says, the perversity of human nature is such, and the dominating force of ingratitude is so great in many hearts, that the once helpless beneficiaries of the physician's art not only are often among the first to deny him a reasonable compensation for his services, but will join willingly in words of detraction and slander against him. "Those worthies," says Dr. Riddick, "are not unlike the fat and greasy porker who never looks up to the stately and beneficent oak that kindly sheds the strengthening acorns down for his maintenance and support."

Dr. Riddick is not portraying his entire community, be it observed. There are many true and loyal men, he says, who delight to render timely and needed aid to the family doctor, and they do so not only as a business obligation and duty, but as a practical evidence of personal regard and sincere appreciation of his kindly and helpful ministrations to them and theirs when suffering was great and danger nigh. "For those worthy good fellows," he says, "every doctor holds a sentiment of respect and regard second only to that which Damon showed for Pythias." The state of things of which he justly complains could, he thinks, be overcome readily if the profession would set about it systematically and as an organized body.

MINOR PARAGRAPHS.

THE BRUSH BILL.

IN this issue we print the full text of the bill generally known as the Brush bill or senate bill No. 5, which is a proposed amendment to the city charter as to matters affecting the board of health. We are unable to see that it in any way warrants the apprehension that some physicians seem to feel to the effect that, if it becomes law, it will hamper the board's legitimate work. In its style, however, it is crude and in at least one part incomprehensible. We have in mind the concluding sentence, if it can be called one, of section 1171.

ONE OF THE DIFFICULTIES OF SUPPRESSING IRREGULAR PRACTICE IN FRANCE.

THE Medical Syndicate of the Southeast, says *Médecine moderne* (*Journal de médecine de Paris*, February 6th), wishing to convict a curate healer of unlawfully practising medicine, sent to the said curate two men who on several occasions presented themselves at his consulting rooms. They were examined by the curate, who subjected them to auscultation and percussion and gave them a prescription, for which they paid each time the sum of two francs. Fortified with this testimony, the syndicate prosecuted the curate. The decision of the court was that unquestionably the accused had instituted medical treatment in the case of the witnesses, but that, as neither the one nor the other had really been sick, the curate could not be charged with the illegal practice of medicine. In consequence "of one of the elements of the misdemeanor—namely, a disease—not being in evidence, the infringement with which the curate had been charged could not have been accomplished, for lack of an object." Upon that the curate, who was convicted of having practised medicine illegally, but, in this particular case, of having made use of it without practising it, because the subjects were not diseased, was acquitted.

A NEW JOURNAL OF THERAPEUTICS.

THE H. K. Mulford company, of Philadelphia, have begun the publication of a monthly entitled *Practical Therapeutics*. It is, of course, a trade journal, but it seems to be free from some objectionable features that are apt to be found in such publications.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 22, 1898:

DISEASES.	Week ending Feb. 15.		Week ending Feb. 22.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	12	4	4	1
Scarlet fever	188	11	141	11
Cerebro-spinal meningitis	0	0	0	0
Measles	315	11	369	16
Diphtheria	154	18	173	26
Croup	11	6	2	1
Tuberculosis	194	97	178	117

The City Hospital Medical Society of St. Louis.—At the last meeting, on Thursday evening, the 17th inst., Dr. H. W. Soper was to read a paper on The Value of Modified Milk in the Feeding of Infants, which was to be discussed by Dr. E. W. Saunders, Dr. Mary H. McLean, Dr. George M. Tuttle, Dr. Robert Luedeking, Dr. W. G. Moore, and Dr. Hartwell N. Lyon.

The apparatus employed in producing modified milk was to be exhibited, and the method of its preparation explained by Mr. Henry Edward Howland.

A Physician Victorious in a Malpractice Suit.—We congratulate Dr. C. D. Palmer, of Cincinnati, on the fact that, as we learn from the *Cincinnati Lancet-Clinic*, the malpractice suit brought against him in the name of a Mrs. Eiselein has been decided in his favor. The suit was brought about eight years ago, and has been stubbornly contested.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 19th inst., Dr. E. W. Saunders and Dr. B. Bribach were to read papers on Antitoxine in the Treatment of Diphtheria.

The Richmond Academy of Medicine and Surgery.—At the last meeting, on Tuesday evening, the 22d inst., fatty liver was to be the subject of the discussion, which was to be opened by Dr. J. N. Upshur.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising-surgeon general during the week ending February 19, 1898:

Small-pox—United States.

Selma, Ala.	Feb. 14	2 cases.
Atlanta, Ga	Feb. 3–10	2 "
Charlotte, S. C	Jan. 26–Feb. 12	3 "
Memphis, Tenn	Feb. 10	1 case.
Brownsville, Texas	Jan. 29–Feb. 12	2 cases.

Small-pox—Foreign.

Prague, Bohemia	Jan. 22-29	5 cases.	
Cienfuegos, Cuba	Feb. 1-13		19 deaths.
Havana, Cuba	Feb. 3-10	9 "	
Hong Kong, China	Dec. 25-Jan. 8	5 "	3 "
Liverpool, England	Jan. 22-29	2 cases.	
Madras, India	Dec. 25-Jan. 7		4 "
Messina, Italy	Jan. 29-Feb. 5		1 death.
Osaka Fu, Japan	Dec. 28-Jan. 1	1 case.	
Tokyo Fu, Japan	Dec. 28-Jan. 1	2 cases.	
Aichi Ken, Japan	Dec. 28-Jan. 1	2 "	
Akita Ken, Japan	Dec. 28-Jan. 1	2 "	1 "
Awomori Ken, Japan	Dec. 28-Jan. 1	4 "	
Chiba Ken, Japan	Dec. 28-Jan. 1	3 "	
Fukui Ken, Japan	Dec. 28-Jan. 1	1 case.	
Fukushima Ken, Japan	Dec. 28-Jan. 1	8 cases,	2 deaths.
Iwate Ken, Japan	Dec. 28-Jan. 1	8 "	2 "
Kanagawa Ken, Japan	Dec. 28-Jan. 1	3 "	
Kochi Ken, Japan	Dec. 28-Jan. 1	1 case.	
Miyagi Ken, Japan	Dec. 28-Jan. 1	9 cases.	
The Hokkaido, Japan	Dec. 28-Jan. 1	106 "	32 "
Rotterdam, Netherlands	Jan. 23-29	1 case.	
Odessa, Russia	Jan. 22-29	9 cases,	2 "
St. Petersburg, Russia	Jan. 16-22	18 "	8 "
Warsaw, Russia	Jan. 16-22		2 "
Madrid, Spain	Dec. 22-28		1 death.

Cholera.

Bombay, India	Jan. 4-11		4 deaths.
Calcutta, India	Dec. 26-Jan. 8		17 "
Madras, India	Dec. 25-Jan. 1		11 "

Yellow Fever—Foreign.

Havana, Cuba	Feb. 3-10		1 death.
Manzanillo, Cuba	Jan. 15-31		4 deaths.

Plague—Foreign.

Hong Kong, China	Jan. 1-8	2 cases,	1 death.
Bombay, India	Jan. 4-11		450 deaths.
Formosa, Japan	Dec. 28-Jan 21	32 "	

Changes of Address.—Dr. George F. Chandler, to No. 43 West Twelfth Street, New York; Dr. Albert Pohly, to No. 73 East Ninety-second Street, New York; Dr. T. V. Roy, from Buchanan, Michigan, to Baroda, Michigan.

Answers to Correspondents:

No. 463.—If you can prove negligence on the part of the proprietor as occasioning the accident or contributing to its occurrence, or if you can prove that the bookkeeper was authorized by the proprietor to call in a physician under such circumstances, clearly, either the proprietor or the bookkeeper is responsible.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Two Weeks ending February 19, 1898:*

HUBBARD, G. C., Assistant Surgeon. Ordered to St. Elizabeth's Government Hospital for the Insane.

THOMPSON, J. C., Assistant Surgeon. Detached from the Naval Hospital, Mare Island, California, and ordered at once to the Mohican.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 13 to February 19, 1898:*

DARNALL, CARL R., First Lieutenant and Assistant Surgeon, is relieved from duty at Fort Clark, Texas, and ordered to Fort McIntosh, Texas, for duty at that post, relieving REYNOLDS, FREDERICK P., Captain and Assistant Surgeon. Captain Reynolds, on being thus relieved, is ordered to Vancouver Barracks, Washington, for duty at that post.

EWING, CHARLES B., Captain and Assistant Surgeon, is granted leave of absence for one month, to take effect on or about March 1st.

GRAY, WILLIAM W., Major and Surgeon, is relieved from duty at Fort Apache, Arizona, to take effect upon the expiration of his present leave of absence, and ordered to Fort Huachuca, Arizona, for duty.

STRAUB, PAUL F., Captain and Assistant Surgeon, is relieved from duty at Angel Island, California, and ordered to report in person to the Commanding General, Department of the Columbia, without delay, for assignment to duty.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending February 17, 1898:*

SAWTELLE, H. W., Surgeon. Upon being relieved by Surgeon H. R. CARTER, to proceed to Chicago and assume command of service. February 17, 1898.

AUSTIN, H. W., Surgeon. To assume temporary charge of quarantine division in bureau. February 15, 1898.

CARTER, H. R., Surgeon. To rejoin station at Chicago, Ill., February 17, 1898. Relieved from duty at Chicago, Ill., and directed to proceed to New Orleans, La., and assume command of service. February 17, 1898.

BROOKS, S. D., Passed Assistant Surgeon. Relieved of command of service at Port Townsend, Wash., and to remain in command of Port Townsend Quarantine. February 17, 1898.

PERRY, T. B., Passed Assistant Surgeon. Upon being relieved by Passed Assistant Surgeon J. B. STONER, to proceed to San Francisco, Cal., and report to medical officer in command for duty and assignment to quarters. February 17, 1898.

STONER, J. B., Passed Assistant Surgeon. Upon being relieved by Surgeon H. W. SAWTELLE, to proceed to Buffalo, N. Y., and assume command of service. February 17, 1898.

WERTENBAKER, C. P., Passed Assistant Surgeon. To proceed to Spartanburg, S. C., for special temporary duty. February 14, 1898.

PERRY, J. C., Passed Assistant Surgeon. Upon being relieved by Passed Assistant Surgeon RUPERT BLUE, to proceed to Fort Townsend, Wash., and assume command of service. February 17, 1898.

BROWN, B. W., Passed Assistant Surgeon. To proceed to Key West, Fla., and report to medical officer in command for special temporary duty. February 15, 1898.

BLUE, RUPERT, Passed Assistant Surgeon. Upon being relieved from duty at San Francisco Quarantine, to proceed to Portland, Ore., and assume command of service. February 17, 1898.

OAKLEY, J. H., Passed Assistant Surgeon. To proceed to New Orleans, La., and report to medical officer in command for duty and assignment to quarters. February 15, 1898.

MATHEWSON, H. S., Assistant Surgeon. Upon being relieved from duty at San Francisco, Cal., to proceed to San Francisco Quarantine and report to medical officer in command for duty and assignment to quarters. February 17, 1898.

Society Meetings for the Coming Week:

MONDAY, *February 28th:* Medical Society of the County of New York; Lawrence, Massachusetts, Medical Club (private); Cambridge, Massachusetts, Society for Medical Improvement; Baltimore Medical Association.

TUESDAY, *March 1st:* New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Society of the County of Herkimer, N. Y. (annual—Herkimer); Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Maine, County Medical Association (Lewiston); Essex, Massachusetts, South District Medical Society (annual—Salem); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, *March 2d:* New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, N. Y. (Stapleton); Penobscot, Maine, County Medical Society (Bangor); Bridgeport, Connecticut, Medical Association.

THURSDAY, *March 3d:* New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); City Hospital Medical Society of St. Louis.

FRIDAY, *March 4th:* Practitioners' Society of New York (private); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

SATURDAY, *March 5th:* Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

Births, Marriages, and Deaths.

Born.

TUDURY.—In New Orleans, on Monday, February 14th, to Dr. and Mrs. Ralph A. Tudury, a daughter.

Married.

FORRESTER—BROOKS.—In St. Francisville, Louisiana, on Wednesday, February 16th, Mr. Howard Forrester and Miss Cecile Brooks, daughter of Dr. O. D. Brooks.

GIBIER—HOEN.—In Baltimore, on Tuesday, February 22d, Dr. Paul Gibier, of New York, and Miss Agnes Hoen, daughter of Mrs. August Hoen.

LEDERMAN—WEIL.—In New York, on Tuesday, February 22d, Dr. Moses D. Lederman and Miss Belle Weil.

Died.

BICKHAM.—In New Orleans, on Monday, February 14th, Dr. Charles Jasper Bickham, in the sixty-eighth year of his age.

SAWYER.—In Auburn, N. Y., on Monday, February 21st, Dr. Conant Sawyer.

SEGUIN.—In New York, on Saturday, February 19th, Dr. Edward C. Seguin.

WILKINSON.—In Jersey City, on Thursday, February 17th, Dr. James Wilkinson, aged sixty-one years.

Letters to the Editor.

THE PHYSICIAN'S SIGNATURE.

1003 MADISON AVENUE, NEW YORK, *February 2, 1898.*

To the Editor of the New York Medical Journal:

SIR: In your editorial on The Physician's Signature, in your issue of January 29th, you state that you would be glad to hear from anybody who has anything to say in favor of the titled signature.

While agreeing almost entirely with you in the stand which you take, I beg leave to offer the following explanation regarding the use of the title in Germany, the country to which you have alluded. For centuries the title of doctor has been so connected with the profession of medicine in Germany that for the great masses of the population a doctor was *eo ipso* a physician. And it is only of late years that lawyers, philologists, and druggists have so commonly acquired the title of doctor, not to speak of dentists, veterinary surgeons, and chemists, who nowadays also have this title almost invariably. Still the title of doctor has helped to some degree to strengthen the social standing of physicians in Germany. Our colleagues abroad are proud of being physicians and they can not impress it often enough on the public. Thus we can explain why great men there sign themselves Dr. much oftener than Professor or Geheimrath. Just as a general is proud of being a soldier, so are these men proud of being physicians, and they demonstrate it in the above-mentioned manner.

On the other hand, in purely medical discussions, *as a rule*, no title is used abroad and everybody is called Mr. from the youngest assistant to the oldest professor. Comparing this with our custom here, we observe a marked difference. Thus, we read in the same number of your valuable journal under Proceedings of Societies, page 162: "The President, *Dr.* Brooks H. Wells, in the Chair." "*Dr.* Walter Lester Carr reported," etc. "*Dr.* Wiggin, *Dr.* Newton, *Dr.* Carter S. Cole, and *Dr.* Rupp" took part in the discussion.

In the last number of the *Berliner klinische Wochenschrift*, on the other hand, we read under the same heading, page 65: "President: *Herr* Virchow; Secretary: *Herr* Landau." And the demonstrations: "*Herr* Beckmann, *Herr* Virchow, *Herr* Heubner, *Herr* Hansemann, and *Herr* Baginsky."

While I myself very rarely use the title in signing my name, I would nevertheless gladly advocate doing so if I thereby could help to enhance the standing and dignity of the profession in the community.

W. FREUDENTHAL, M. D.

[Dr. Freudenthal's letter explains the German custom quite satisfactorily. It was not against that that we were protesting, but against the innovation of following in this country a custom which originated under conditions that have no existence here. By the way, we ourselves have added "M. D." to Dr. Freudenthal's signature in this instance. Occasionally we publish letters from persons who are not physicians, and it is important that our readers should be able to distinguish them from those who are in the profession.

The unavoidable delay that has occurred in the publication of Dr. Freudenthal's letter enables us to state now from information that the signatures printed in the Academy of Medicine's document with "Dr." before them were so printed by accident. In the type-written copy of the report the copyist had written "Dr." before each name, using a pencil. When the document was really signed in ink, nobody thought to erase the pencil-marks, and the printer took "Dr." for a part of his copy.]

REPORT OF A CASE OF CEREBRO-SPINAL MENINGITIS, WITH A TEMPERATURE OF 109° F., COMPLICATING PNEUMONIA.

WATERTOWN, WISCONSIN, *February 13, 1898.*

To the Editor of the New York Medical Journal:

SIR: If for no other reason, I beg leave to report the following case on account of the unusual severity and the comparative rarity of some of its features.

The patient, a boy fifteen years of age, was taken ill on January 29th. I saw him for the first time on the afternoon of the next day, and upon inquiry and examination satisfied myself that the case was one of pneumonia. He was at once placed under treatment for this condition, and by noon next day improvement was quite apparent. I saw him again at 10 P. M. and found him complaining only of a little pain on coughing, over the lower lobe of the right side. The temperature was 101° F., pulse 90, and respirations 26. He rested reasonably well that night until 3 A. M. (Tuesday), when he became uneasy, but complained of nothing in particular. At 8 A. M. he had a light breakfast of milk and toast. An hour later he became delirious and grew rapidly worse. I saw him at 9.30 with Dr. F. B. Hoermann, and found him in a profound coma. Rigor set in a few minutes later and the body could be moved like a statue. The axillary temperature was 109°, pulse 160 and very weak, respiration very irregular. To make sure, the temperature was taken with several thermometers, and they all registered 109°. The skin was hot and dry, face distorted, anal sphincter paralyzed as indicated by involuntary movements of the bowels. The pupils were contracted to pinhead size with no reaction to light. No examination of the optic discs was made, on account of the contracted pupils and want of time. There was bulging of the lips and cheeks with each expiration. Death at any minute would have been no surprise. However, no time was lost, for it was prompt treatment that was called for rather than a finely drawn diagnostic picture. It was decided to pack the patient in snow, and while a snow bed, as it were, was being prepared he was freely sponged with absolute alcohol and given brandy and strychnine, also nitroglycerin hypodermically. Stimulants could not be administered in the form of enemata, on account of the paralysis of the sphincter mentioned above. In fifteen minutes the temperature had fallen to 108° and the character of the pulse had improved.

He was now rolled upon a waxed tablecloth and placed on the snow, while a layer of snow was also thrown over the cloth covering the anterior surface of the body, and ice was applied to the head. Fifteen minutes later the temperature was 106° F. He was left in the snow pack for ten minutes longer without further reduction. He was then returned to the bed with a most unfavorable prognosis. The temperature was taken every fifteen minutes, and to our utmost surprise became steadily lower until two hours later it was 103°. The pulse was still 140, but stronger and fuller; respiration was still irregular, but less rapid. The signs and symptoms which now became quite apparent left no doubt as to the diagnosis of a complicating cerebrospinal meningitis. There had been no prodromes at any time, not even headache, to indicate a cerebral or spinal lesion. The onset was sudden and without warning.

At 12 M. the patient had recovered somewhat from the comatose condition, but intelligence was still blunted. There was not the slightest response to loud calling of his name. The region over the whole spine was extremely tender, and the continuous hyperæsthesia was so marked that at one time an attempt to take the radial pulse resulted in a general convulsion. Symptoms referable to individual cerebral and spinal nerves also set in. There were unilateral ptosis (left side), nystagmus and meiosis of the pupils, with very sluggish reaction to light. The countenance was still pale, sallow, and expressive of suffering. There was a constant twitching of the facial muscles and at times there was tetanus of the masseters. Vomiting set in, but subsided in the course of an hour and did not reappear. The patient was given two hypodermic injections of twenty grains of chloral each and later a quarter of a grain of morphine, but all without avail. He had a number of general convulsions during the next five hours, and opisthotonos was a marked feature, the occiput being at times between the shoulder blades and the body arched well forward, while twitching of the muscles in general and spasms continued. Ice bags were applied to the head and spine. Internal medication could not be carried out at this time, and very probably would have been of little or no avail. All attempts to make the patient swallow were ineffectual and connected with great probability of bringing about convulsions.

At 2 P. M., when we left the patient, the temperature was still 103° F. and the pulse 140. I saw him again at 5 P. M., when the temperature was 102.5°, the pulse 130, and the respiration 32, and somewhat more regular. He was highly delirious, and both upper and lower extremities were in constant motion, apparently without volition. At 10 P. M. the temperature was 102.2° and the pulse 130. At 11.30 P. M. he swallowed several teaspoonfuls of water without its inducing spasms or convulsions. Dry cupping was then resorted to along the spine and at the nape of the neck, and the ice was replaced. He was delirious all night, but in the morning his condition appeared a trifle more favorable. He responded to calling of his name by turning his eyes in the direction whence the sound came. A purpuric rash had developed over the whole body, especially marked on the trunk. The pupils were more dilated and reacted somewhat better to light. The temperature was 102°, the pulse 120, and the respiration 24. The treatment, apart from applications of ice, was entirely symptomatic.

At 5 P. M. the same day the temperature was 101.5° and the pulse 120. At 10 P. M. the temperature was 101° and the pulse 120. The delirium, restlessness, and spasms and twitching of the muscles were as marked as before. He was given another hypodermic injection of a quarter of a grain of morphine, with negative results, as before, and morphine was not used again. From this time (Wednesday evening) until Friday evening the temperature varied from 97.8° to 101.5°, and the pulse from 60 to 120. The delirium and twitching of the muscles and spasms continued without intermission, and the patient was not afforded a moment's sleep or rest.

Friday, at 10 P. M., the use of ice along the spine was discontinued and a belladonna plaster applied instead. He was given five minims of tincture of belladonna every three hours and five minims of fluid extract of ergot every hour and a half. He was more quiet that night than he had been at any time previous. The following morning there was added to the internal medication cyanide of zinc in doses of one two-hundredth of a grain every three hours. During the day the patient slept as long as an hour at different times. His intellect was quite clear and his temperature did not rise above 99.8°, while the pulse varied from 80 to 90. He took nourishment quite freely. Improvement continued and he often slept from three to four hours without waking. On Wednesday the tenderness over the spine had disappeared entirely, and the plaster was removed and the use of tincture of belladonna discontinued. Ergot and cyanide of zinc were given as before. The patient, however, had become so emaciated and so weak that the prognosis had to remain quite unfavorable. It was noticed also at this time that slight aphasia was present, and it became more marked quite rapidly, so rapidly that he could not speak at all the next morning and a decided change for the worse could plainly be noticed in his condition. The temperature was 100°, the pulse 140, and the respiration 30. Everything possible was done to meet the indication, but it soon became evident that the stage of exhaustion had been reached and that death was inevitable. The patient died early the next morning.

R. B. Hoermann, A. B., M. D.

Proceedings of Societies.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of December 1, 1897.

The President, Dr. Robert J. Carlisle, in the Chair.

The Histories of Three Morbid Specimens were presented by Dr. Charles Phelps. (See page 218.)

Dr. John W. S. Gouley said that the surgeon might be almost certain of the recurrence of superficial or subperiosteal sarcomata. But if the disease had begun within the bone non-recurrence might have been almost certainly predicated. He had never seen a case of periosteal sarcoma which had not recurred sooner or later, generally within a year after an amputation.

Dr. J. B. Murphy, of Chicago, being invited to take part, asked if there were a history of traumatism preceding the first sarcoma; also if the temperature had been elevated, and if a bruit had been present.

Dr. Phelps answered that he had only seen the patient once prior to the amputation, and then the temperature was about 100° F. There had been no bruit.

Dr. Murphy said that the rapidly growing sarcomata of bone that he had met with had been accompanied by an elevation of temperature, and most of them by a bruit. The first case in which his attention had been particularly called to this fact had been that of a man whose duty it was to carry lumber up a gangplank. While thus engaged the man had fallen and struck his knee. After remaining from work for three days he had been admitted to hospital. At that time he had been delirious, and had had a temperature of 103° F. for several days. The case had been looked upon as one of osteomyelitis; then a bruit and a large pulsating tumor had developed, and finally amputation had been performed. The case had proved to be one of aneurysmal sarcoma of very rapid growth. Amputation had been performed near the hip, and ten days later the patient had left the hospital and had not been seen since. He recalled another case, a sarcoma within the abdomen, in which a diagnosis had been made of acute appendicitis, with abscess. The patient had been sick for three weeks, and on admission to the hospital the temperature had been 102.6°.

Dr. Gouley said that according to Bland Sutton's views elevation of temperature is most likely in any case of round-cell sarcoma—a growth which this observer was disposed to regard as made up of leucocytes in battle with microbia.

Dr. Gouley said regarding pulsating tumors, that they had been first described in England under the name of "fungus hæmatodes." These were the teleangiectatic sarcomata containing any form of cell, but having many dilated capillaries. These growths in some parts of the osseous frame had sometimes been called "aneurysms of bone." In the old days of Bellevue Hospital there had been several operations performed on these aneurysms of bone—teleangiectatic and pulsating sarcomata. It was only this subvariety that was endowed with pulsation.

Dr. Phelps said that without doubt from the time he had first seen the patient up to the time of operation a moderate temperature had persisted. He was quite certain that there had been no pulsation at any time, nor could it have been expected, as the tumor was quite solid and did not contain vessels of much size.

Dr. Joseph D. Bryant said that in the course of the discussion he had called to mind four cases of the kind. In two a marked elevation of temperature had been noted. They were both sarcomatous growths of the pelvis—one of the left and one of the right iliac fossa. In these cases the temperature had been one to two degrees above the normal, but there had been no pulsation. No autopsy had been obtained. For the last six months he had had under observation a case which he regarded as one of sarcoma of the pelvis. In this there had occurred an interesting manifestation which had led him to doubt somewhat the correctness of the diagnosis. Dr. Coley had seen this case, and had used the erysipelas toxines in it without benefit. In this patient the temperature had been still higher. Inasmuch as there had been manifestations of suppuration on the surface of this tumor, followed by the escape of pus and a fall of the temperature and diminution in the size of the growth, it seemed more than probable that much of this rise of temperature had been due to the inflammatory action. He would like to inquire whether any one present had seen in sarcomata superficial suppurative processes which had, directly or indirectly, modified their growth. He recalled a case of myxosarcoma of the pharynx. Not looking upon removal as a wise procedure, and wishing to observe the effect of simultaneous ligature of the external carotids, this operation had been done, and the growth had not only ceased to grow, but had finally almost entirely disappeared. The patient had been kept under observation for several years. In his experience elevation of temperature in cases of sarcoma had been quite uncommon.

Dr. Louis A. Di Zerega remarked that suppuration had been quite common following the treatment of sarcomata by the toxines.

Dr. Gouley said that it was a well-known fact that all tumors were liable to suppurate. He had repeatedly found degenerative cysts in carcinoma and sarcoma, sometimes as a result of violence and sometimes without any known cause. Many cases of spontaneous cure of sarcoma were on record. The so-called fungus hæmatodes had been known to slough out and the patient to be cured. From a large number of cases on record he would say that the occurrence must be quite common. He had personally observed several dozen cases of suppuration in the course of malignant disease.

A Study of Seventeen Cases of a Disease clinically resembling Typhoid Fever, but without the Widal Reaction; together with a Short Review of the Present Status of the Sero-diagnosis of Typhoid Fever.—Dr. N. E. Brill read a paper with this title. (See pages 48 and 77.)

Dr. Alexander Lambert said that in the very early days of bacteriology every disease had been supposed to have a specific organism, but it had soon become apparent that one germ might give rise to a great variety of clinical pictures. He could not share Dr. Brill's enthusiasm over the Widal test, because there seemed to him to be cases of undoubted typhoid in which this reaction was not obtained. In a given case, if the Widal test were negative, it could not be said that it was *not* typhoid. We did not yet know what caused the Widal reaction, or why in some very mild cases of typhoid fever the reaction was marked, and in other severe cases of typhoid the reaction was not so marked. Where the test was positive and the dilution 1 to 100, 1 to 50, or 1 to 40, there could be no doubt about the case being one of typhoid fever. Another feature of typhoid fever was that in a given epidemic there might be a lack or a preponderance of some symptom considered as classical. For this reason, in a given epidemic, there might be an unusual proportion of cases of typhoid fever in which the Widal reaction was not obtained. That certain cases of typhoid fever ran a short and very mild course was well known. He had with him the reports of three cases of this kind sent by Dr. Root, of Hartford. In these, the duration of the disease had varied from nine to fourteen days, and the temperature from 104° to 107° F. They presented all the symptoms described in Dr. Brill's cases. The temperature had fallen rapidly, and convalescence had been speedy. All three cases had given a positive and marked reaction with the Widal test. An analogy might be found, for example, in tetanus. If tetanus toxine were injected into a hen, an animal that could stand an enormous amount of this toxine without a fatal result, it would be found that up to a certain point these injections produced absolutely no antitoxine reaction in the blood, and it was only when the dose was still further increased that a decided reaction was obtained. Similarly, in typhoid fever, it might be supposed that the infection was not sufficient in a given case to give the Widal reaction. The same might be observed in tuberculosis. In the latter chronic disease the toxines were not thrown into the system rapidly, and hence there was a slow and feeble reaction. These facts made him hesitate to accept the cases reported in the paper as being some other disease than typhoid. In this connection, it was of interest to recall the occurrence some years ago in Paris of two sharp epidemics of what appeared to be typhoid. In these cases the intestinal symptoms had been mild, but the nervous phenomena had been intensely marked. But the specific germ had been found to be one introduced with some parrots, and the disease occurred in parrot fanciers.

Dr. William H. Park said that the health department had examined over one thousand cases, yet out of these definite information regarding the clinical diagnosis had been received in only about six hundred. Of this number, only about two fifths had been considered to be typhoid. Of those considered by the clinician to be typhoid at the end of the disease, seventy-five per cent. had given a positive Widal reaction in 1 to 10 and 1 to 20 dilution. In the majority of these cases only one examination had been made. Of the cases in which repeated examinations had been made, probably ninety per cent. had given positive reactions, but in certainly ten per cent. no positive reaction had been obtained, even on repeated examination. While he agreed with Dr. Lambert regarding the negative value of the Widal reaction in a single case, yet if daily examinations were made, that negative value would be greatly enhanced. The fact that in all of the seventeen cases reported in the paper the reaction was negative was rather strong negative proof regarding the disease not having been true typhoid. He felt now that a positive Widal reaction in a 1-to-20 dilution positively indicated typhoid fever.

He recalled a case at the Presbyterian Hospital bearing upon the intensity of the infection. The patient had had fever for ten days, and pus in the urine, but none of the classical symptoms of typhoid fever. Examination showed the presence of the typhoid bacillus in the urine, though not in the fæces. Such a case taught us that although a case might not be typhoid fever clinically, it might still be a true typhoid *infection*. Dr. Hiss's method of isolating the typhoid bacillus revealed the presence of this organism, in the first few days, in about forty per cent. of the cases.

Dr. F. W. Jackson called attention to the danger of teaching that the absence of the Widal reaction constituted a positive proof of the absence of typhoid fever. For example, it would be extremely dangerous to say that the cases reported in the paper were not typhoid fever, for such cases would then be treated by many as not typhoid, and hence a new danger would arise. It seemed a little premature at present to say that we had at last found a means of distinguishing between the perplexing borderline cases and those of unquestionable typhoid fever. So long as there was any doubt about a continued fever, it should be treated as typhoid.

The reader of the paper had presented very clearly a set of cases which were familiar to those on duty at the hospitals in summer. We had long been in doubt as to the exact nature of these cases, yet they were usually looked upon as typhoid fever, were treated as such, and the majority recovered. After studying these cases carefully with the aid of the Widal test for over a year, he still felt just as uncertain regarding their true nature.

Dr. C. A. Elsberg said that it was only after observing the constant absence of the Widal reaction in this series of seventeen cases at the hospital that the suspicion had arisen that they might not be true typhoid. The cases had been examined for from three to five weeks, and also after leaving the hospital. It was unfortunate that we were not even yet in possession of an *absolute* bacteriological or other test for a given disease. We had no such test, even for diphtheria, for it was well known that the diphtheria bacilli had frequently been found in normal throats. The same was true of some cases in which the tubercle bacilli had been found. In one case, reported by a French author, of peritoneal effusion associated with Bright's disease, a considerable number of tubercle bacilli were found with absolutely no other change. A similar case had been reported by Dr. A. Jacobi—in a little girl who had died of multiple adenomata of the liver, and who had had ascites from pressure on the portal vein. Tubercle bacilli were found in this ascitic fluid. We could not, then, expect to have a test that would *always* respond in a given disease—indeed, the type of a disease was only determined by deductions from a large number of observations on similar cases. It was true that experimental work had shown that animals could be fed with typhoid bacilli without the development of any symptoms of typhoid fever, yet the blood would give the typhoid reaction. It would be more correct, therefore, to speak of the Widal reaction as a sign of infection with the typhoid bacilli. If marked symptoms of typhoid fever were present, in ninety-eight per cent. of the cases the Widal reaction would be obtained. It was, therefore, fair to assume that this test was a good indication of the presence of typhoid. Again, if in a carefully observed series of cases this reaction were not obtained, it seemed fair to assume that they were probably not typhoid fever. This conclusion had not been arrived at in the cases under discussion until the entire course of the disease had passed under observation. A few weeks ago it had been stated that an analogous reaction—*i. e.,* on the spirillum of relapsing fever—had been observed in the blood of persons suffering from relapsing fever, and that it had been noted that if the agglutination occurred in a short space of time this should be taken as an indication that the patient would not have another relapse. Possibly a similar condition might be found to obtain in typhoid, and if so, the reaction would prove to be of prognostic as well as of diagnostic value.

Professor **Mandel**, speaking from the standpoint of a chemist, said that the present theory of bacterial disease was that these germs formed toxic albumins or albumoses. He thought, therefore, it would be advisable to examine the urine in order to ascertain the presence of a toxic albumin or albumose. Such a substance was found in typhoid fever. He thought it would have been possible to isolate the toxic agent from the urine in these seventeen cases, and thereby positively demonstrate that they were different from the ordinary cases of typhoid fever.

Dr. A. **Alexander Smith** said that if the members had listened to the history of one of Dr. Brill's cases, not knowing about the Widal reaction, hardly one would have concluded that the case was something else than typhoid fever, at least that type often seen in a given series or season. Certainly the type of disease varied greatly in different seasons. From a purely scientific standpoint, it was to be regretted that the treatment had been so exceedingly successful that there had been no opportunity to study the morbid anatomy. These cases had been seen at a time of year when typhoid fever was most prevalent here, and their clinical course certainly impressed him very strongly with the notion that at least a number of these cases were true typhoid. Almost every clinician could, without difficulty, recall similar cases. Personally, he had been inclined to look upon these as examples of auto-infection.

Dr. **Brill** said that in his remarks introducing the subject-matter of the paper he had said that it was not improbable that clinicians had recognized in the past, as he had, types of fevers simulating typhoid and which they called typhoid, notwithstanding the symptoms were not all typical of the disease. They called these cases typhoid because they did not know under what other category they could be placed. He thought his paper had clearly defined his position, and on that account could not understand why the gentlemen who discussed the paper persisted in emphasizing the fact, to which he agreed, that the negative appearance of the Widal reaction could prove nothing. He had distinctly stated that he based his deduction that this group of cases was probably not typhoid on three grounds: (1) That the Widal reaction was absent in all of these cases; (2) that no typhoid bacilli could be found either in the fæces or in the blood from the spleen in four cases examined, and (3) that there was a notable departure in the clinical history of these cases from that of typhoid fever.

He said he could not agree with Dr. Lambert in feeling that he was not sanguine about the value of the Widal test, because the large majority of bacteriological workers all over the world had come to the conclusion that the Widal reaction was as positive a sign of typhoid fever as was any other bacteriologic test at our disposal, and that this belief could be well corroborated by the fact that in about five thousand cases of typhoid fever the reaction had been obtained in almost ninety-eight per cent. of all the cases.

Here were, however, a group of seventeen peculiar cases of a disease in which no reaction could be obtained in a single case, and those cases occurred in a general hospital in which the clinically pure cases of typhoid fever gave the reaction. This occurrence might alone indicate a wide departure from the clinical typhoid group.

Book Notices.

Lectures on the Action of Medicine. Being the Course of Lectures on Pharmacology and Therapeutics delivered at St. Bartholomew's Hospital during the Summer Session of 1896. By T. **Lauder Brunton**, M. D., D. Sc. (Edin.), LL. D. (Hon.) (Aberd.), F. R. S., Fellow of the Royal College of Physicians, etc. New York and London: The Macmillan Company, 1897. Pp. xv–673. [Price, $4.]

It is unfortunately the case that technical lectures are more than often what are described as "dry." In no branch of medical study is this dryness more noticeable and all but unavoidable than in pharmacology, and it is constantly a problem and a severe task to the lecturer upon materia medica and kindred subjects to convey the necessary amount of instruction and at the same time to render it tolerable to his hearers. The experience of Dr. Brunton as described in his preface, then, is instructive in a high degree, for clearly it appears that he has suffered from all these trials which afflict the didactic pharmacologist. "In regard to the manner of these lectures," says the author, "I may say that I am fully aware of the objections which may be brought against it. I acknowledge at once that the lectures are imperfect. They are redundant in some parts and scanty in others; they are not well adapted for the purpose of cramming, and any man who tries to pass an examination upon them alone will not be at all likely to get the maximum number of marks. But I do not think that lectures are intended for the purpose of cramming. Their use is not to supply the student with all the information he needs, but to awaken his attention, to excite his interest, to impress upon him certain points which will form a nucleus for his knowledge, and around which he may afterward group more information. The first course of lectures that I gave, in 1870 and 1871, were the fullest, the most complete, and, from the examination point of view, the most satisfactory. They were carefully written down and read aloud to the students, but, as I soon found out, students do not like read lectures. Moreover, the amount of information I gave to them in the hour was far more than they could comfortably take up, and it seemed to me that even the best of them, in trying to grasp too much, got hold of too little, and the lazier ones did not even make an attempt. I then began to consider the matter, and thought of Solon's answer in regard to the laws which he had given to the Athenians. 'Are those the best laws you can frame?' said his questioner. 'No,' said Solon, 'but they are the best laws that the Athenians can keep.' It appeared to me that Solon's advice had been taken also by a London preacher, who went to a friend of mine learned in history. 'I am going to preach a sermon upon war,' he said; 'I want you to give me some facts.' My friend rattled off half a dozen pieces of information. 'Stop,' said the preacher; 'that is as much as my congregation will hold.' In my lectures I have tried to follow this preacher's example, and not to stuff into each lecture as much information as could be given in the hour, but as much as I thought my audience would take up. Whether I have been right or wrong in so doing I must leave to the readers of these lectures to judge."

As a result of these experiences and conclusions of the author we are provided with a series of lectures which, while containing a vast fund of therapeutic lore, are so flavored and spiced with narrative, experience, and anecdote that the student's receptivity is tricked into absorption and assimilation almost in spite of itself. It is with no carping thought that we may say our preference would be to hear instruction thus imparted rather than to read it. Published lectures are seldom so apt as lectures delivered, for, though the student may accept with appreciation and gratitude the easy rendering of a compulsory subject, the reader is under no such stress, as a rule, to have his technical pabulum thus flavored for his palate. Indeed, it detracts in a way from the seriousness of the book when it is constructed upon the method of the lecture room. This, however, is an observation rather general than specific, for nobody can read these lectures of Dr. Brunton's save to his interest and benefit. To the teacher of pharmacology they will be of more than ordinary service, illustrating as they do the lecture-room methods of one who for a long time has been one of the foremost teachers of the subject. But one other work we think in any way comparable with this; that is, the pharmacological lectures of Professor Binz. Each work, indeed, is complementary to the other, and as exponents of lecture-room pharmacology they are unapproached.

A System of Medicine. By Many Writers. Edited by Thomas Clifford Allbutt, M. A., M. D., LL. D., F. R. C. P., F. R. S., F. L S., F. S. A., Regius Professor of Physic in the University of Cambridge, etc. Volume V. London and New York: The Macmillan Company, 1897. Pp. xii–880. [Price, $5.]

The preface of this fifth volume of Allbutt's remarkable system is chiefly explanatory and apologetic, for, whereas the original design was for a work of five volumes, it has now become clear that a sixth if not a seventh will be required. In a way it is unfortunate that the work must exceed the limits originally set for it, and naturally many a slender purse will be the sufferer, but on the other hand none should begrudge the added expense when he considers the quality and completeness of the finished work. As a general rule in life, the economy which dictates the purchase of an inferior commodity is no economy at all, and when a technical work is the commodity such policy is a self-evident absurdity. Nobody who has read the volumes of this medical system which have already appeared can criticise it on the score of undue diffuseness, and, such being the case, the greater length of the work as now indicated is a matter which should and doubtless will give general satisfaction.

The volume before us opens with the consideration of hepatic diseases, and anatomy is the first thing to be dealth with. Hepatic function and its disorders follow, but the arrangement of this chapter is far from satisfactory and an undeserved neglect is the portion of functional disturbances which with us at least are so common in occurrence as almost to constitute a national disease. There follow then well-presented chapters on hepatic congestion, jaundice (a very satisfactory chapter), acute yellow atrophy, perihepatitis, suppurative hepatitis, amœbic abscess, cirrhosis, and hepatic neoplasms. In natural sequence there next come diseases of the gall bladder and bile ducts, and the matter under these heads is exceedingly able. The diseases of the pancreas are discussed by our countryman Dr. Fitz, whose teachings upon the subject are well known. Renal diseases naturally occupy a considerable space, and the section is opened by general pathological considerations of much completeness. Of the matter on renal diseases little need be said save that its quality and quantity are sufficient, but we must confess that the somewhat confused subject of Bright's disease has been classified and presented rather more to our liking and made, we think, more readily comprehensible in certain of our American text-books. The section which follows is devoted to the diseases of lymphatic and ductless glands, and naturally is one of much importance in view of the study and interest which have latterly been devoted to these matters. Myxœdema (the bibliography of which is so extensive), sporadic cretinism, Graves's disease, splenic disorders, suprarenal disease, Hodgkin's disease, and scrofula all are discussed ably and with the inclusion of all which modern research in these matters has made essential. The diseases of the respiratory organs naturally afford a less untilled field, and the chapters on the diseases of the nasopharynx and larynx which follow, though thoroughly in keeping with all that is best both in the other portions of the work and in other works, are in a sense conventional. With laryngeal diseases the volume ends. The insertion of a discussion of the general pathology of respiratory diseases as introductory to the work on the separate disorders is very helpful, and throughout the system these introductory considerations are notable and prominent among its many excellent features.

Manual of Gynæcology. By Henry T. Byford, M. D., Professor of Gynæcology and Clinical Gynæcology in the College of Physicians and Surgeons of Chicago, etc. Second Edition. Containing Three Hundred and Forty-one Illustrations, many of which are Original. Philadelphia: P. Blakiston, Son, & Co., 1897. Pp. xxiii–13 to 596. [Price, $3.]

This edition has followed quickly upon the steps of the earlier one. The name of the author has long been a favorite one to conjure with in matters gynæcological.

He refers to the changes which have been found necessary in rewriting his work to keep pace with the progress which has been made. It would seem hardly possible that such great changes could occur in two years as to make extensive alterations of text requisite; still, it is a fact that new editions nowadays, to keep abreast of new works on kindred subjects, must practically be new works also. An important feature in all works of this character is the illustrations. If well executed and clearly drawn, they not only supplement the text but elucidate it, and not infrequently their educational value is greater than that of the text. The illustrations in this book are many, but they are of unequal value. Those which depict the anatomy and pathology of the subject are excellent, and are especially valuable to one who is well grounded in anatomy and pathology. But the author evidently takes it for granted that the reader should be thus grounded, and it is a tribute to the advanced system of education of the present decade as well as an evidence of the author's superior qualifications. The illustrations descriptive of certain clinical conditions are not in all cases satisfactory; especially is this true of the series which illustrates perineal, cervical, and fistula operations. Much of the text relating to fistulæ of the bladder reads like ancient history now, so infrequently are these lesions seen. Some of the rarer forms mentioned are hardly ever seen.

Another subject which is losing its conspicuous place in gynæcological text-books is the treatment of uterine displacements with pessaries. We quite agree with the author that the day of their greatest importance has gone forever. The same fate probably awaits the Schultze method of treating pelvic adhesions, which is described by the author without disapproval, as we understand him. It is probably efficient in skilled hands in a small number of cases. With the majority of those who are likely to practise it, it must be quite ineffectual or positively dangerous. That pelvic abscesses may readily be ruptured by this method is quite conceivable, but such a method of disposition is hardly to be commended.

A very large portion of the book is devoted to questions of anatomy and pathology, a larger portion than is usual with works of this magnitude. That they are well treated, in the main, is not disputed, but in our judgment the clinical aspect of a book of this character should predominate; that, however, is merely a matter of opinion.

The chapter on the pathology of endometritis is an excellent demonstration of a subject about which writers are too often obscure or indefinite.

The chapters on venereal diseases, which really belong to a work like this, but are seldom included, might have been extended with profit by further consideration of their medicinal treatment, which is, in many instances, the only treatment applicable.

The chapters on the pathology of the new growths are more complete than one is apt to find them outside of the treatises on special pathology.

BOOKS, ETC., RECEIVED.

Twentieth Century Practice. An International Encyclopædia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M. D. In Twenty Volumes. Volume XIII. Infectious Diseases. New York: William Wood and Company, 1898. Pp. 3 to 621.

The American Yearbook of Medicine and Surgery. Being a Yearly Digest of Scientific Progress and Authoritative Opinion in all Branches of Medicine and Surgery, drawn from Journals, Monographs, and Text-books of the Leading American and Foreign Authors and Investigators. Collected and Arranged with Critical Editorial Comments by Samuel W. Abbott, M. D., John J. Abel, M. D., J. M. Baldy, M. D., Charles H. Burnett, M. D., Archibald Church, M. D., J. Chalmers Da Costa, M. D., W. A. Newman Dorland, M. D., Louis A. Duhring, M. D., Virgil P. Gibney, M. D., Homer W. Gibney, M. D., Henry A. Griffin, M. D., John Guitéras, M. D., C. A. Hamann, M. D., Howard F. Hansell, M. D., Barton Cooke Hirst, M. D., E. Fletcher Ingals, M. D., Wyatt Johnston, M. D., W. W. Keen, M. D., Henry G. Ohls, M. D., William Pepper, M. D., Wendell Reber, M. D., David Riesman, M. D., Louis Starr, M. D., Alfred Stengel, M. D., G. N. Stewart, M. D., J. R. Tillinghast, Jr., M. D., and Thompson S. Westcott, M. D. Under the General Editorial Charge of George M. Gould, M. D. Illustrated. Philadelphia: W. B. Saunders, 1898. Pp. 3 to 1077.

Orthopædic Surgery. By James E. Moore, M. D., Professor of Orthopædia and of Clinical Surgery in the College of Medicine of the University of Minnesota, etc. With One Hundred and Seventy-seven Illustrations. Philadelphia: W. B. Saunders, 1898. Pp. 13 to 351.

The Elements of Clinical Diagnosis. By Professor Dr. G. Klemperer, Professor of Medicine at the University of Berlin. First American from the Seventh (last) German Edition. With Sixty-one Illustrations. Authorized Translation by Nathan E. Brill, A. M., M. D., Adjunct Attending Physician, Mount Sinai Hospital, New York, and Samuel M. Brickner, A. M., M. D., Assistant Gynæcologist, Mount Sinai Hospital, Out-patient Department. New York: The Macmillan Company. London: Macmillan & Co., Ltd., 1898. Pp. xvii–292.

Studies from the Yale Psychological Laboratory. Edited by Edward W. Scripture, Ph. D., Instructor in Experimental Psychology. Volume LV.

Eighth Annual Report of St. Mary's Hospital, Rochester, Minnesota. For the Year 1897.

Twenty-eighth Annual Report of the Manhattan Eye and Ear Hospital. September 30, 1896, to September 30, 1897.

Deuxième session de l'Association française d'urologie, Paris, 1897.

The Physiological and Pathological Relations between the Nose and the Sexual Apparatus of Man. By John Noland Mackenzie, M. D., of Baltimore. [Reprinted from the *Johns Hopkins Hospital Bulletin*.]

The Texas Screw-worm and its Invasion of the Nasal Cavities. By M. A. Goldstein, M. D., of St. Louis. [Reprinted from the *Laryngoscope*.]

Advanced Method in Teaching the Deaf. By M. A. Goldstein, M. D. [Reprinted from the *Laryngoscope*.]

Miscellany.

An Interesting Case of Membranous Dysmenorrhœa. —In an article entitled Some Gynæcological Experience, in the February number of the *Chicago Medical Observer*, Dr. William Wesley Cook relates the following:

One morning I was called upon by Mrs. Smith and her next-door neighbor. They carried about them an air of great mystery, and enjoined secrecy in what they were about to divulge to me, probably that there might be no danger of their peddling the news second hand. Mrs. Smith fastened the door and drew from her handbag a small package, which proved to be a handkerchief containing a small, bloody specimen of "something" for examination.

"Here," she said, "look at that and tell me what you think of it. Don't ask me where I got it or anything about it, but just tell me what it is."

I examined the specimen carefully and told the ladies that I could not positively identify it unless they would give me its whole secret. This they protested to be loath to do; but it took very little urging to get them to accept the opportunity to "set the ball a-rolling."

Cousin Jane had come to town unexpectedly, and after a week of "looking and acting very strange," she had been taken with severe cramps and was compelled to remain in bed. The specimen had been found in the bed vessel, and Mrs. Smith added:

"I just said nothing to Cousin Jane about it, but showed it to my neighbor here; and she said I might possibly be mistaken. So I thought I would show it to you and make sure. I don't want it to go any farther, for it would just kill my husband to be disgraced that way."

The specimen had every appearance of a decidua, the result of abortion; and it was evident the ladies had come to that conclusion and were determined to involve me in the trouble. My answer was withheld from them until there should be opportunity for further investigation. They left the office very much disappointed, with promises to "do nothing" until they "learned for certain."

My desire was to see Cousin Jane; but as her affairs were plainly none of my business, it was not my intention to make them such. Fortunately for all parties concerned, the lady in question made her appearance shortly after I had finished my examination of the membrane. She had become aware, by overhearing conversations, that she was the object of unpleasant thoughts. Having missed the "specimen," and knowing the other ladies had called upon me, she conjectured the meaning of it all, and so called to make explanations, which I will give as an ordinary history of her case.

She was a woman about thirty-five years of age, a school teacher and highly intellectual, a subject of membranous dysmenorrhœa for several years. At each menstrual period she suffered intensely during the first twenty-four or forty-eight hours, and would then pass either clots of stringy blood or shreds of membrane. Only once before had she passed a complete membrane, as at the present time.

In this particular period she had recently passed through a severe mental strain, and attributed her unusual menstruation to that fact. There was considerable ovarian tenderness; and the flow following the expulsion of the membrane was profuse for several days, though accompanied by little pain. Examination of the membrane showed it to be a perfect cast of the uterus. It did, in fact, resemble such a "specimen" as would be expelled as the result of abortion, and her relative had fair ground for suspecting it be such. Had it been a true decidua, it would have had a more rounded appearance and more solidity.

When the ladies called upon me for the result of my examination, I could detect a decided look of disappointment upon their faces when all the facts were told them. They were also somewhat incredulous when they learned of Cousin Jane's call and explanation; and evidently decided that we had arranged matters between us. All that the victim and myself could do to explain matters did not prevent the affair from being noised about. The rumor was spread among the feminine inhabitants; and although always accompanied by the explanation, it was a choice morsel of gossip—the facts in suspicion being readily accepted and the explanation taken with a large grain of salt.

It was an unpleasant posture for Cousin Jane; and instead of shortening her visit as her sister-in-law had hoped, it prolonged her visit more than a month; and when the next menstrual period arrived, Dame Nature allowed her triumphantly to exhibit another "specimen," and the tide of comment turned.

It is unnecessary to dwell at more length upon the unpleasant experiences of this innocent woman during her month of waiting. They can better be imagined than described. It was a trying ordeal; and it is related in order that those physicians who have not encountered a case of this kind may not fall into an error of diagnosis when so much is at stake, and when an error is so easily made.

The Proposed Charter Amendment Affecting the City Board of Health.—In its amended form, senate bill No. 5, introduced by Mr. Brush, reads as follows: *

SECTION 1. Sections one hundred and nine, eleven hundred and sixty-seven, eleven hundred and seventy-one, eleven hundred and seventy-two, eleven hundred and ninety-one, twelve hundred and eleven, twelve hundred and nineteen, twelve hundred and twenty-five, twelve hundred and thirty-seven, and twelve hundred and sixty-five, of chapter three hundred and seventy-eight of the laws of eighteen hundred and ninety-seven, entitled, "An act to unite into one municipality under the corporate name of The City of New York, the various communities lying in and about New York harbor, including the city and county of New York, the city of Brooklyn and the county of Kings, the county of Richmond, and part of the county of Queens, and to provide for the government thereof," are hereby amended so as to read as follows:

SEC. 109. *Department of Health; the Board of Health.*—The head of the department of health shall be called the board of health. Said board shall consist of the president of the police board, the health officer of the port, and three officers appointed by the mayor, to be called health commissioners, at least two of whom shall have been practising physicians for not less than ten years preceding their respective appointments. [The health commissioner who is not a physician shall be president of the board, and shall be so designated in his appointment.] *The mayor shall designate one of the three commissioners appointed by him to be president of the board.* The health commissioners shall, unless sooner removed, respectively hold their offices for six years, until their successors shall respectively have been appointed and have qualified, except that the commissioners first appointed shall, unless sooner removed, hold office for two, four, and six years, respectively, as designated by the mayor.

SEC. 1167. *The Board of Health the Head of the Department of Health.*—The head of the department of health shall be called the board of health. Said board shall consist of the president of the board of police, the health officer of the port, and three officers called commissioners of health, *at least two of whom shall have been practising physicians for not less than ten years preceding their respective appointments,* who shall be appointed by the mayor and shall hold their respective offices as provided in chapter four of this act, as designated by the mayor.

SEC. 1171. *Repairs of Building.*—The powers of the board of health shall be construed to include the ordering and enforcing in the same manner as other orders are provided to be enforced, the repairs of buildings, houses, and other structures [;], and the regulation and control of all public markets, so far as relates to the cleanliness, ventilation, and drainage thereof, and to the prevention of the sale, or offering for sale, of improper articles therein; the removal of any obstruction, matter, or thing in or upon public streets, sidewalks, or places which shall be in its opinion liable to lead to results dangerous to life or health; the prevention of accidents by which life or health may be endangered; and generally the abating of all nuisances. It is hereby expressly declared that the said board of health shall have been appointed and have qualified, except that the commissioners first drainage and cleanliness of the stands or stores in or around all markets, and said boards shall have in said city all common law rights to abate any nuisance without suit, which can or does in this State belong to any person whatever.

SEC. 1172. *Sanitary Code.*—The sanitary code adopted and declared as such at the meeting of the board of health department of the City of New York, held in the city as formerly constituted and bounded on the second day of June, eighteen hundred and seventy-three, as amended in accordance with law, is hereby declared to be binding and in force in the city constituted by this act, and shall continue to be so binding and in force, except as the same may, from time to time, be revised, altered, amended or annulled by the board of health as herein provided. And it shall be the duty of said board, immediately upon organization under this act, to cause to be conformed to this title the sanitary code of ordinances, adopted by the existing department of health, and the departments and boards of health existing in the several parts of the city of New York before the passage of this act, which shall be called the "Sanitary Code." Said board of health is hereby authorized and empowered from time to time to add to or alter, amend or annul any part of the said sanitary code, and may therein publish additional provisions for the security of life and health in the city of New York, and distribute appropriate powers and duties to the members and employees of the department of health, not inconsistent with the constitution or laws of this State. The board of health may embrace therein all matters and subjects to which, and so far as, the power and authority of said department of health extends [not limiting their application to the subject of health only]. But no such revision, alteration, or amendment shall take effect or be binding or in force, until the same has been published once a week for two successive weeks in the *City Record.* The publication of additional provisions in, and of, additional ordinances of the sanitary code once a week for two successive weeks in the *City Record* shall be sufficient, and render any further publication of the same in any other newspaper unnecessary. Any violation of said code or its amendments shall be treated and punished as a misdemeanor, and the offender shall also be liable to pay a penalty of fifty dollars, to be recovered in a civil action in the name of the department of health of the city of New York, before any justice or tribunal in said city having jurisdiction of civil actions; and all such justices and tribunals shall take jurisdiction of such action. Copies of the record of the proceedings of said board, of its rules, regulations, ordinances, by-laws and books and papers constituting part of its archives, and the sanitary code, now or hereafter in force in said city, and the ordinances of the sanitary code added thereto and adopted by said board of health, when authenticated by its secretary, or secretary *pro tempore,* shall be presumptive evidence, and the authentication taken as presumptively correct in any court of justice, or judicial proceeding, when they may be relevant to the point or matter in controversy, of the facts, statements, and recitals therein contained.

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* Matter in Italics (except captions) is new; matter in brackets [ ] is old law to be omitted.

Sec. 1191. *Id.; and Payment for Night Medical Service.*—It shall be the duty of the registrar of records, in his borough, and where his office is located, to ascertain and report to each captain of the police whether any physician who applies for registry, as willing to respond to any call for medical attendance, as provided in this act, is [in good and regular standing], *duly authorized by law to practise his profession,* and to transmit to such captain a certificate thereof. It shall be the duty of the department of health to pay at sight the fee of three dollars certified to be due any physician, in accordance with the provisions of this act, and to enter such payment in a book provided for that purpose, and to take up the certificate issued therefor.

Sec. 1211. *Penalties for Disobedience.*—Every person who shall refuse or neglect to obey the directions of the *two* preceding sections, or of the board of health pursuant thereto, in relation to provisions, putrid and other offensive articles therein mentioned, shall be guilty of a misdemeanor, and, on conviction, shall be subject to fine and imprisonment, or both, at the discretion of the court. Such fine shall not exceed one thousand dollars, and such imprisonment shall not exceed two years.

Sec. 1219. *Measures to Prevent the Spread of Disease.*—It shall be the duty of the board of health:

1. To cause any avenue, street, alley, or other passage whatever to be fenced up or otherwise inclosed, if it shall deem the public safety requires it, and to adopt suitable measures for preventing all persons from going to any part of the city so inclosed.

2. To forbid all communication with the house or family infected with any contagious, infectious, or pestilential disease except by means of physicians, nurses, *sanitary officers in pursuance of duty,* or messengers to carry the necessary advice, medicines, and provisions to the afflicted.

3. To adopt such means for preventing all communication between any part of the city infected with a disease of a pestilential, infectious, or contagious character and all other parts of the city, as shall be prompt and effectual.

Sec. 1225. *Vaccination.*—For the purpose of more effectually preventing the spread of small-pox by the thorough and systematic vaccination of all unvaccinated persons, and for the relief of persons suffering with diphtheria and other infectious disease residing in said city, the board of health is hereby empowered to continue or organize a corps of *physicians to act as* vaccinators [and of physicians] within and subject to the control of the bureau of sanitary inspection, to appoint the necessary officers, keep suitable records [collect], *prepare,* and preserve pure vaccine lymph or virus, and produce diphtheria antitoxine and other antitoxines, *for the use of the board* subject to the provisions of the charter. *Said board may carry on such other investigations of a sanitary nature as to it may seem necessary or expedient;* and add to the sanitary code such additional provisions as will, most effectually, secure the end in view. Said board of health may take measures and offer inducements [supply agents] and facilities for general and gratuitous vaccination and disinfection, and for the use of diphtheria antitoxine and other antitoxines [and may afford relief] to and among the poor of said city, as in its opinion the protection of the public health may require.

Sec. 1237. *Births to be Reported.*—It shall be the duty of the [parents of any child born in said city, and if there be no parent alive that has made such report, then the next of kin of such child born, and of every person present at such birth] *physician, or if no physician be present, then of the midwife, or if no physician or midwife be present, then of the nurse assisting at the birth of any child, or in the absence of such physician, midwife, or nurse, of the next of kin,* within ten days after such birth, to report to the department of health, in writing, so far as known, the date, borough, and street number of said birth, and the sex and color of such child born, and the names of the parents. [It shall also be the duty of physicians and professional midwives to keep a registry of the several births in which they have assisted professionally, which shall contain, as near as the same can be ascertained, the time of such birth, name, sex, and color of the child, the names and residence of parents, and report the same within ten days to the department of health.] *Any person refusing or neglecting to perform the duty imposed by this section shall be considered guilty of a misdemeanor and shall forfeit one hundred dollars for each offense, to be sued for and recovered by the department of health.*

Sec. 1265. Upon the complaint of [any citizen of the city] *the board of health*, against any person for violation of any rule, sanitary regulation, ordinance, or order, made to any magistrate having jurisdiction in criminal cases, such magistrate shall order the arrest of any person against whom such complaint is made as in any other case of a criminal offense, and by his warrant may require any policeman or constable to make such arrest, and may, after such arrest, proceed summarily to try such person for such alleged offense; but no such trial shall be had on any arrest made in the city without sufficient notice thereof being first given to the department of health. And upon an application in behalf of said department made before the trial is commenced, the trial of such person, together with the papers, shall be remitted to the court of special sessions, upon which court jurisdiction to try such person is hereby conferred; but the right of any person to elect to be tried before a jury, as it may now exist, is not affected by anything herein contained. If such person shall, upon such trial, be found guilty, he or she may be punished in the same manner as is provided for the punishment of persons found guilty of a misdemeanor. Reports of all such trials; and of fines imposed for violations of this chapter, or the sanitary code, shall be made monthly to said department, by the justices before whom trials are had. But nothing in this section contained shall be construed as in any manner limiting any powers, penalty, and punishment in this chapter elsewhere conferred.

Sec. 2. Sections twelve hundred and twenty-six, twelve hundred and thirty-nine, twelve hundred and forty-eight, and twelve hundred and forty-nine of said act are hereby repealed, but this repeal shall not remit any penalties already incurred or prevent the recovery thereof as if said repealed sections remained in force.

Sec. 3. This act shall take effect immediately.

Vulvar Pruritus during Pregnancy.—Dr. Fieux (*Gazette hebdomadaire de médecine et de chirurgie*) reports a case of severe pruritus coming on about the seventh month in a woman who had no previous history of any neurotic trouble. The patient was immediately relieved by a thorough scrubbing and disinfection of the vagina and vulva on the plan suggested by Ruge, of Berlin. The latter also advises the application of a five-per-cent. carbolated vaseline, but this was found to be unnecessary in the case under consideration. The exact pathology is somewhat doubtful. An immediate cure could hardly be expected from a single disinfection if the disease was of bacterial origin. Suggestion must play a certain part, as Dr. Fieux states that the treatment was of no value when carried out by the patient herself.

Baths in English Hospitals.—A horrible scandal in the management of the Maidenhead Hospital, says the *Echo médical*, has plunged all the philanthropists of Great Britain into despair. It has become noised about that the attendants have used only six hot baths to cleanse forty vagabonds. This average of six and two thirds vagabonds to a bath is too high, according to Lord Russell, one of the board of managers. The exact effect of his remarks on the subject to his colleagues has not been made public, but he has addressed a piteous appeal to the Local Government Board, giving the facts and declaring in favor of the principle: "One man, one bath." The local board have in their turn demanded from the hospital managers an explanation of this strange conduct. A meeting of the managers was hastily called, and they attempted to justify themselves by the following arguments: "Some time before this question came up those in charge of the hospital had taken measures by which the amount of hot water supplied had been greatly increased, and consequently the number of inmates bathed in the same water has been constantly diminishing. When the plant is completed as projected, only two or three will be bathed in the same water." There is certainly a great improvement in these figures that no one can deny, but Lord Russell is still firm in his convictions: "One man, one bath." There is, however, little prospect of a change, for one of the managers has been heard to exclaim, "Where will all this luxury and extravagance end? I am astonished that we are not expected to give our inmates perfumed soap for their baths."

Such, says the *Echo*, are the hydrotherapeutic refinements of a country which considers all Frenchmen as unclean.

Medical Certificates in France.—Some time ago the *Gazette hebdomadaire de médecine et de chirurgie* published a report from the civil tribunal of the Seine to the effect that the judgment of the court had been that all medical certificates must be written from the personal knowledge of the physician making the report.

This year the court has rendered a judgment in a case which makes it a misdemeanor for a physician to certify to a lesion which would incapacitate the injured person from any labor for a considerable length of time when in reality the injury was slight. And if, in consequence of such a false certificate, an insurance company has paid an indemnity to a third person, the physician is liable for damages if sued by the company.

A New Artificial Immunity against Tetanus.—Wassermann, in the *Berliner klinische Wochenschrift*, 1898, No. 1, discusses the theory of Ehrlich's on the formation of antitoxines. The latter assumes that when an animal is poisoned, by tetanus for instance, certain cells of the spinal cord combine with the poison. He assumes that this toxine unites with a certain portion of the cell and that the antitoxines are nothing but these particular parts of the cells which are continually being broken down and regenerated during the immunizing process. In other words, there is a setting free of certain chemical portions of normal spinal-cord cells. According to this, the normal central nervous system ought to contain substances which will render animals immune to tetanus, and this is precisely what Wassermann and Takaki find. Fresh spinal cord or brain, rubbed up in normal salt solution and injected into an animal, not only prevents death from a previous inoculation, but confers an immunity lasting for twenty-four hours. The power of this substance is far lower than that of the Behring serum containing tetanus antitoxine, so that the results so far are of purely scientific interest and have no immediate therapeutic value.

Wealthy Physicians.—A writer in the *St. Petersburger medicinische Wochenschrift* laments the fact that the obituary notices of so many physicians, especially in Russia, close with the words "He died leaving nothing for his family." But he is glad to announce the names of three who have made large fortunes in practice. Professor Sacharjin is said to have left about a million and a half dollars, besides three valuable houses in Moscow. Sir William Mockinson, the late surgeon to the British Queen, has given one hundred thousand dollars to the University of Edinburgh as a fund for anatomy and geology, and twenty-five thousand dollars to the Royal Society.

Dr. Evans, the third favorite of fortune, and the court dentist to Napoleon III, suffered from delusions of grandeur, according to our author, for he left his fortune of five millions to his native town of Philadelphia. And, further, this money was given to erect an Evans Museum, in which the clothes and honors of the donor are to be displayed, and also to erect to his memory a monument in one of the public squares, to cost at least a million. This will be news to Dr. Evans's friends, we think.

To remove Plaster Splints.—A note in the *Fort Wayne Medical Journal* for January suggests the use of vinegar to soften plaster-of-Paris splints so that they can be cut easily with a knife or with scissors. Another excellent method, it says, is to use a strong solution of bichloride of mercury, simply moistening the splint along the line to be cut.

Either vinegar or sugar will quickly remove the plaster from the hands.

The Mercy Hospital, Pittsburg, says the *Philadelphia Polyclinic,* has opened a medical and surgical dispensary. Dr. G. L. Hayes, Dr. O. C. Gaub, Dr. W. B. Ewing, and Dr. James D. Heard have been appointed to take charge of the work.

Procreation in Old Age.—The *Medical Age* is responsible for the statement that a Toronto woman over sixty years of age gave birth recently to a baby girl. Her husband rejoices in the goodly age of seventy-eight. The mother, however, has had much experience at this sort of thing, for this child is her twenty-second. One would think she was old enough to know better. The male sex, as might naturally be supposed, have better records than this. A Tyrolese gentleman with an Italian name, Panaricini, is reported to have married at the age of eighty-two, and to have increased the population of his district by seven healthy infants. It is not stated, however, just what was the age of his assistant in this performance, and so the clinical history must remain an incomplete one.

The Production of Plasmatic Cell Juices and Experiments in Immunization and Clinical Treatment with the Plasmatic Cell Juices of Bacteria.—Two papers with these titles, one by Hans Buchner and the other by Hahn, appeared in the *Münchener medicinische Wochenschrift,* 1897, No. 48, and are given in abstract in the *Therapeutische Monatshefte* for January. Buchner reports further on his method of obtaining the plasmatic cell contents, without recourse to chemical action, by the mechanical trituration of the moist germ mass, followed by expression of the magma thus obtained in a hydraulic press at from four hundred to fifteen hundred atmospheres. This method was first applied to yeast cells. Buchner thus obtained a clear, yellow, slightly opalescent liquid possessing a very considerable proportion of albumin. This liquid was shown by E. Buchner to be capable of producing genuine alcoholic fermentation in the absence and without the cooperation of any living organisms whatsoever. The real depository of the fermentative action is, therefore, a peculiar enzymelike substance which is also capable of acting independently of the living cell. It has received the name of zymase. In a moist condition this substance readily undergoes alteration; the fermentative properties also disappear spontaneously on somewhat prolonged storage, and this disappearance probably has some connection with the existence of powerful digestive enzymes observed by Hahn in the expressed juice, for these enzymes give rise to a sort of self-digestion. On the other hand, dry zymase is permanent.

The next step was, naturally, the production of the expressed juices of pathogenic bacteria by the same method, with a view to studying their specific properties. The manufacture of these bodies, to which Buchner gives the name plasmins, presupposes the dispelling of technical and biological difficulties. This task was assumed by Dr. Hahn and the second paper mentioned above gives his results.

He experimented with three types of pathogenic bacteria: 1, the cholera bacilli and typhus bacilli, which in guinea-pigs produce only acute and local infection; 2, anthrax bacilli, or staphylococci, which give rise to acute general infection; and, 3, tubercle bacilli, which provoke chronic general infection.

The juice obtained by expressing cholera bacilli (cholera plasmin) is highly albuminous, and the albumin behaves like a nucleo-albumin. To guinea-pigs it is toxic in a very limited degree; it takes a large dose to kill them. The local action consists in an inflammatory infiltration. With the aid of the cholera plasmin it is easy to immunize guinea-pigs against peritoneal infection with living cholera bacteria, either by repeated small doses or by larger doses given at one time. This immunization is strictly specific and persists for from three to four months. The destruction of the cholera vibriones in the organism of the animals immunized with the expressed juice proceeds amid the symptoms observed by Pfeiffer; and yet not only the exudate, but also the blood serum of these animals, possesses specific agglutinating properties. Very similar to the foregoing were the results with the typhoplasmin.

Hahn does not believe that there is any field for the therapeutic use of cholera plasmin with human beings. At the most it might be used only for prophylactic injections after the manner of Haffkine's experiments.

The typhoplasmin, on the other hand, might be used for therapeutic as well as immunizing purposes; nevertheless, it seems questionable whether immunity against peritoneal infection is identical with that against an intestinal disorder.

The experiments with the expressed juices of anthrax bacilli and staphylococci have shown that it will scarcely be possible to achieve with their aid a sure immunization against general infection. Though the animals treated succumbed somewhat later than the check animals, this fact might be explained by the elevation of bactericidal properties due to hyperleucocytosis.

With the expressed juices of tubercle bacilli (which give promise of practical results) Dr. Hahn made his experiments six months before the appearance of Koch's publication. These experiments have not yet been concluded, and require to be supplemented by clinical experiments on human beings. The tuberculoplasmin is a clear, amber-yellow liquid, containing much coagulable albumin; decomposes hydrogen peroxide (in contradistinction to Koch's new tuberculin); and may be stored for a considerable time in an ice-chest without the development of germs by the addition of twenty per cent. of glycerin and five per cent. of common salt. With this preparation Hahn treated a number of guinea-pigs. Two weeks after inoculation he began injecting very small, gradually augmented doses, which produced moderate but distinct symptoms of fever. The use of the injections was prolonged for months. Of seventeen guinea-pigs thus treated, three died before there was any possibility of a curative action; five others succumbed, in common with the check animals; but with four other guinea-pigs, despite the fact that death was not prevented, there was visible a less extensive distribution or a reactive modification in the vicinity of the tubercle. The five remaining animals have thus far survived the check pigs from six weeks to two months. Thus almost one third of the series were preserved, and, in view of the inborn susceptibility of guinea-pigs to the tubercle bacillus, this may be considered as not an unfavorable result.

Investigations on the human subject would seem in order, especially as clinical tests thus far made have demonstrated the harmlessness of the remedy, inasmuch as the patients are commonly presented for treatment in an advanced stage, with the disease complicated by secondary infections, and since it is not possible to inject into a human being a quantity proportionate to that given to the test animal. But, on the other hand, some benefit would be derived from the non-specific power of the tuberculoplasmin to produce hyperleucocytosis, the favorable influence of which on experimental infections has been repeatedly emphasized.

Mortality among Physicians.—A study of the relative mortality of the professional classes by Dr. Thalam has recently been published in the *Wiener medicinische Zeitung.* In this unpleasant competition physicians, unfortunately, take the first rank, with a death rate of 9.66 as contrasted with 8.21 among lawyers and 5.33 for the clergy. The most frequent causes of death among professional men of all classes are those referable to the heart; diseases of the lungs appear to play only a small part with physicians. The other most frequent causes of death are gout, diabetes, diseases of the genito-urinary tract, and suicide. The latter has apparently increased during the past decade, and the only offset to this fact lies in a corresponding decrease in the number of deaths from alcoholism.—*Deutsche Medizinal-Zeitung.*

An Abuse of Medical Charity.—Last winter a man presented himself at the New York Ophthalmic Hospital and asked that an operation for cataract be performed, stating that he was very poor. The hospital is partly supported by charity. In view of the man's statement, that he was unable to pay much, the physician in charge reduced the usual $15 per week to $5 per week for board and attendance. The man was admitted and stayed several weeks. It was then learned that he was senior member of a large wholesale grocery firm, and was worth about $150,000. The hospital, therefore, presented a bill for $200, the full rates; the man refused to pay; the hospital sued, and received a verdict for the amount. Such vigorous treatment applied to a few of the many similar cases constantly occurring would have a beneficial influence upon the community.—*Annals of Ophthalmology.*

A Physician appointed Vice-consul.—The *Western Medical and Surgical Gazette* announces that Dr. Carl Johnson, of Denver, has been appointed United States vice-consul at Amoy, China, also marshal of the consular court there and United States port surgeon.

The Denver and Arapahoe County (Colorado) Medical Society, as we learn from the *Western Medical and Surgical Gazette,* has elected officers for the year as follows: President, Dr. E. P. Hershey; secretary, Dr. G. E. Tyler; treasurer, Dr. E. J. Rothwell; financial secretary, Dr. J. M. Blaine; members of the board of censors, Dr. C. K. Fleming, Dr. J. T. Eskridge, Dr. H. W. McLauthlin, Dr. S. D. Hopkins, and Dr. C. B. Van Zant.

The Tarnier Monument.—The *Tribune médicale* says that the amount subscribed on the first list is 14,204 francs.

The Wills Eye Hospital, Philadelphia.—We learn from the *Annals of Ophthalmology* that Dr. H. L. Hale and Dr. J. A. Cramp have been appointed assistant surgeons.

Lactophosphate of Calcium in Acne and Furuncles.—In the February number of the *Dublin Journal of Medical Science* Dr. H. S. Purdon states that he has frequently prescribed syrup of lactophosphate of calcium in various affections, and that he has observed much benefit from its use in certain forms of acne, especially when the lumps were large, and also in furunculi. In cases of the latter it is more useful when combined with iron. A favorable and palatable mixture when cod-liver oil is thought to be required is the following:

℞	Gum arabic....................	10 drachms;
	Water..........................	1 ounce;
	Syrup of lactophosphate of calcium.	3 ounces;
	Cod-liver oil	4 "
	Essential oil of bitter almonds.....	3 minims.
M.		

The gum, water, and syrup should be rubbed together until a smooth mucilage is made, then the cod-liver oil is to be added gradually, with constant stirring, and lastly the essential oil of bitter almonds. Made in this way, says the author, each tablespoonful of the mixture contains four grains of lactophosphate of calcium and fifty per cent. of cod-liver oil.

Dr. Dusart, continues the author, in his *Researches on the Action of Phosphate of Calcium* remarks: "Bearing in mind the observations and facts that have been related, which all owe their value to direct experiments, do they warrant the assertion that lactophosphate of calcium possesses the value we ascribe to it?—namely, that of being an agent of nutrition. . . . Phosphate of calcium is not merely, as Dr. Bouvier says, a substance 'able to harden bones,' but it becomes an active agent in nutrition, and its most valuable indication is from this property."

Acne, according to the late Sir Erasmus Wilson, is essentially a disease of debility and especially of nutritive debility. Although there are many cases of acne in young women and youths at the age of puberty in which sexual irregularities have a good deal to do with the attack, dyspepsia is often present. In such cases, says the author, syrup of lactophosphate of calcium is beneficial and superior to the sulphide of calcium, which is often prescribed for acne, as also in boils. The latter will often be prevented from occurring in successive crops by this syrup combined with iron.

The Persistent Thymus and Sudden Death among Epileptics with Grand Mal and Periodical Mania of Life-long Duration.—Dr. Bayard Holmes, of Chicago, writes as follows:

The functions of the ductless glands are just beginning to be considered by the practitioner of medicine. The function of the thymus has, however, attracted least attention. Embryologically the thymus is grouped with the thyreoid and the lungs. From the three primary diverticula of the embryonal gullet arise these three structures of such different functions. The lungs arise by dilatation of the ducts and the disappearance of the adenoid function; the thyreoid by the disappearance of the duct and the persistence and growth of the adenoid elements, discharging probably into the lymph channels which surround the gland; and the thymus arises by the disappearance of both the ducts and the adenoid elements, a new lymph adenoid tissue taking their places. The function of the lungs begins at birth and the function of the thyreoid continues throughout fœtal and extra-uterine life, while the thymic function normally terminates soon after birth. With arrest of function the gland disappears.

The pathology of the lungs has long been studied. The most interesting phase of thyreoid pathology is recognized in exophthalmic goître. Only vague hints are to be found in medical literature of a condition or disease due to a persistent or overactive thymus.

A recent contribution to the pathology of the thymus by Dr. A. P. Ohlmacher, in the *Bulletin of the Ohio Hospital for Epileptics at Gallipolis* (vol. i, No. 1), is of unusual value and interest in this connection. It appears from his studies that there is a group of epileptics characterized by attacks of *grand mal* with occasional mania, all prone to sudden death. These unfortunates are otherwise bright and interesting and the tragedy of unexpected death marks them for careful study. Those observed by Ohlmacher were all adults, and the pathological findings were a uniform picture. The thymus was persistent, usually weighing from four hundred and fifty to seven hundred and fifty grains, and apparently functionally active as at birth. The solitary and agminated lymph follicles of the whole intestinal tract were hypertrophied and stood out as little protuberances on the otherwise normal intestinal mucous membrane. Similar follicles were found on the tongue. The lumen of the arch of the aorta was noticeably narrowed. Ohlmacher has studied with great care six cases and added to his original work a study of the literature of persistent thymus. It is a most valuable and significant contribution and shows the value of pathological study in our State institutions.

The relation between laryngismus stridulus, thymic asthma, and sudden death in children and adults, on the one hand, and a persistent or enlarged thymus, on the other hand, has been recognized since the theses of Herard (1847) and Friedleben (1858). As related to these conditions Dr. A. Jacobi published a valuable paper in the *Transactions of the Association of American Physicians* in 1888. Of late the study of the function of the thymus and the therapeutic action of thymic extract have received a little attention, but here a most careful and suggestive series of observations on a common pathological condition in which the persistent thymus is a conspicuous element has been gracefully given us by Ohlmacher, and it may be predicted that it is the beginning of a more rational study and treatment of epileptics and some forms of mania. The trustees of the Ohio institution are to be congratulated on their wisdom in liberally supporting the pathological laboratory, for it will inevitably bring them honor and their unfortunate wards some measure of relief.

The Late Dr. Thomas Hanlon Atkinson, of Jersey City.—At a special meeting of the Practitioners' Club of Jersey City held on February 6, 1898, a committee was appointed to take action upon the death of our deceased brother, Dr. Thomas Hanlon Atkinson, and will offer the following report at the next regular meeting of the society:

While, as mortal men, we can but rest content to live this life on earth as best we may, waiting for the summons to bow in obedience to the command of His Eternal Will, we still cherish the hope and are led to think that youth may always live the life of three-score years and ten; but when the earlier call is sounded, and the time has come for us to end this strife on earth, we must cheerfully obey and willingly onward march to that eternal life "which has been prepared for those that love Him."

Dr. Thomas Hanlon Atkinson has been taken from us in the prime of life, when all was bright before him, and the ardor of youth was stamped upon his brow. We had learned to love and respect our departed brother, and our associations with him were always pleasant and full of interest.

We mourn the loss which we have sustained, and cruel is the blow which has taken from us for the first time a member of our society.

While others may hope to take his place, still shall we hold in reverence the one who has gone before us, resting content with the knowledge that he has claimed eternal life, and reached the goal for which we can but strive.

Be it resolved that we spread in full this tribute of respect upon our minutes, and a copy be forwarded to the Jersey City press, to the medical press, and to the family of the deceased.

[Signed.] G. K. Dickinson, M. D.,
J. M. Rector, M. D.,
F. F. Bowyer, M. D., } *Committee.*

Resolutions on the Bill concerning the City Board of Health.—On February 14th the medical board of the Presbyterian Hospital passed the following resolutions:

Whereas, The medical board of the Presbyterian Hospital believe that the health department of New York has, within the past few years, contributed most valuable services to the city in the prevention of the spread of infectious diseases, notably tuberculosis, as well as by contributions to scientific medical research; and

Whereas, There is pending before the senate a bill called "senate bill No. 5" which would greatly embarrass and curtail this work of the health department, designed to protect the health of the citizens of New York; therefore be it

Resolved, That this board do hereby earnestly protest against the passage of senate bill No. 5, believing that such action would materially injure the interests of this community.

Resolved, That these resolutions be spread upon the minutes of this board and that copies be sent to the senate committee on cities, to the New York health department, and to the medical journals of this city.

[Signed.] W. P. Northrup, M. D.,
Secretary of the Medical Board.

At a special meeting of the medical board of the New York Foundling Hospital, on February 15th, the following was adopted:

The New York Foundling Hospital, in its regular care of twenty-one hundred infants and young children, has received special benefit from the early bacteriological diagnosis of diphtheria and from the liberal use of diphtheria antitoxine. The method of early detection of the disease, the immunization of exposed children, the cure of infected cases, the determination of the moment when a recovered case can safely mingle with other children—all these methods and safeguards have been contributed to the institution by the health department through the immediate agency of its laboratories. It is not too much to say that diphtheria, in this institution, has been robbed of its terrors.

Whereas, In the opinion of this board, the health department of this city has set before the world an object lesson in the management and cure of diphtheria and has equaled the best examples in producing reliable vaccine virus; and

Whereas, The health department is investigating methods for the better care of other infectious diseases and the remedial uses of still other antitoxines; and

Whereas, Any curtailment of its present facilities would react against the public good; therefore be it

Resolved, That this board do hereby protest against the passage of senate bill No. 5.

Resolved, That these resolutions be spread upon the minutes of this board, and that copies be sent to the senate committee on cities, to the health department of this city, and to the medical periodicals.

[Signed.] T. Halsted Myers, M. D.,
Secretary of the Medical Board.

The Opotherapy of Tetanus.—The series of researches just published by Wassermann and Takaki, says a writer in the *Presse médicale* for January 22d, are not only very important, but even destined to overthrow, perhaps, the present theories on the mechanism of artificial immunity.

According to these authors, if the tetanus antitoxine is nothing but the product of certain dissolved parts of the cells of the medulla, an emulsion made with the normal medulla should neutralize the diphtheritic toxine. The experiments practised in this direction have fully confirmed this hypothesis by showing that the medulla and the brain of normal animals (man, guinea-pigs, rabbits, pigeons, horses) not only neutralize the tetanic toxine, but even exercise an immunizing and a therapeutic action on animals that have been poisoned with the tetanus toxine.

The author's experiments were made on mice, and the tetanus toxine in a glycerin solution which they used killed these animals in doses of 0.001 of a cubic centimetre.

The experiments concerning the antitetanic action of the cerebral substance were conducted in such a way that the fatal dose, or one which was two, three, or ten times as large, was mixed with a certain quantity of emulsion of medullary or of cerebral substance from a healthy animal, and the mixture was injected under the skin on the animal's back. Check animals were injected with the tetanic toxine mixed with serum or with an emulsion of hepatic, renal, or splenic parenchyma from animals also healthy.

These experiments showed that, whereas the animals tolerated with impunity the injections of tetanic toxines mixed with the emulsion of medullary or cerebral substance, all the check animals died.

In these experiments, moreover, it was ascertained that the antitetanic properties of the normal brain were much more pronounced than those of the normal medulla.

In these experiments it was seen that a cubic centimetre of an emulsion of the cerebral substance completely neutralized a dose ten times as large as the fatal dose of tetanic toxine; that the addition of a cubic centimetre of cerebral emulsion to a dose of toxine sixty times as large was sufficient to retard considerably the occurrence of the tetanic symptoms in the animal into which this mixture was injected; and that the addition of a cubic centimetre of an emulsion of the medullary substance did not completely neutralize a dose of toxine three times as large as the fatal dose.

On the other hand, it was ascertained that the animals into which a certain quantity of an emulsion of the normal cerebral or medullary substance was injected bore with impunity the ulterior injections of doses of toxine from three to five times as large as the fatal dose, made twenty-four hours after the injection of cerebral substance; and, besides, that the injection of normal cerebral substance into mice, from four to six hours after the injection of a fatal dose of tetanic toxine, led to the recovery of the animals.

The experiments made with the cerebral or medullary substance of the guinea-pig, the pigeon, the rabbit, the horse, and man showed that in the entire series the central nervous system possessed antitetanic properties.

In referring to the experiments on the check animals, in which no antitetanic properties were shown, the writer thinks it is a singular fact that the antitetanic properties were absent in the liquid of the emulsions of the cerebral or medullary substance, which was filtered by the centrifuge, as well as in the ventricular liquid.

In order to explain all these truly extraordinary facts, Wassermann admits that there exists a peculiar affinity between the tetanic toxine and certain cellular complexes of the central nervous system, and that this affinity is manifested not only in the case of the central nervous system of the living organism, but also in that of the dead spinal medulla and brain, that is to say, isolated, separated from the organism. In case of an injection of an emulsion of these organs, that is, when the cerebral substance circulates with the blood, the tetanic toxine, which has penetrated the organism, finding, so to speak, the nervous substance in circulation, is combined with it before proceeding to exercise its action on the cellular elements of the central nervous system, which is thus spared.

The Therapeutic Value of Spleen Extract.—In the February number of the *Edinburgh Medical Journal* Dr. A. Campbell Clark gives an account of the results of his investigation regarding the therapeutic value of spleen extract. These results, he says, have established its therapeutic value beyond a doubt; it aids digestion and nutrition, increases the cutaneous circulation, stimulates the glandular activity of the skin, and produces other effects to be afterward described.

In the first series of cases of a most intractable character—cases of chronic inertia, mental and physical—the patients were subjected to the spleen treatment for more than a year, but the mental result was *nil* in several, a slight improvement in a few, and recovery in two.

In the second class of cases the patients were in a more favorable condition mentally, although physically below par. They included recent cases of insanity, the mental breakdown being due to physical exhaustion—patients suffering from prolonged lactation, puerperal weakness, anæmia, anorexia, and nervous exhaustion. The results in such instances were more prompt and decided in the majority, not only physically, but, soon after, mentally, some being restored completely, while a greater number were only improved.

In a third investigation careful observation, says the author, repeated comparison of one case with another, and increased evidence in other directions gave new suggestions for the selection of cases. Attention was becoming more and more directed to the changes in the skin and complexion, which appeared almost as a matter of course to follow the employment of the spleen extract. In the case of a girl who was inert, inanimate, with cold hands and feet, gray complexion, and scurfy skin, the author was struck by the change which followed the use of the extract; the scurf disappeared and the complexion cleared and assumed an altogether healthy condition. The author was convinced from a study of this and other cases that the skin and its secretions were influenced by the spleen extract, and he concluded to try it in skin diseases. Dr. Charles A. Bois, he says, tried it in a case of psoriasis of the chest and in six weeks the affection had almost entirely disappeared. At the same time Dr. Neil T. Kerr employed it in a case of much more chronic eczema of the chest, abdomen, back, head, and neck with even more remarkable success.

The results of these three investigations are grouped as follows by the author:

Pulse and Temperature.—The character of the radial pulse, as judged by sphygmographic tracings, taken before and several times during treatment, has not yet been definitely determined. Schäfer and Oliver found increased blood pressure occurring after injection with extract of thyroid and suprarenal.

The value of sphygmographic tracings is considerably discounted by some, and in the case of the insane the discount may be larger, unless very great care is exercised in the selection of patients and the application of the sphygmograph. There can be no doubt, however, that spleen extract increases the frequency of the pulse-beat from five to fifteen per cent., and raises the temperature from half a degree to one degree in the great majority of cases. The most notable exceptions were two cases of phthisis pulmonalis. In one case, which was rather advanced, the pulse and temperature were reduced for about a fortnight; while in another, still under treatment, and not so advanced, the reduction of pulse and temperature was maintained for several weeks (up to the date of writing). In the first group of cases, the chronic mental cases, it was observed that the increase of pulse and temperature was sustained for only a week or two. The increased pulse-rate rather favors the idea of lowered arterial tension.

Appetite and Digestion.—In some the appetite was improved; in many more digestion improved without any relish for food. This was probably due to the fact that the liquid extract of spleen employed was rather nauseating to some; for in one case appetite as well as digestion was found to improve when tablets were substituted for the liquid extract. Not much objection was made to the latter, however, and it is the preparation of which the author has had most experience. The case of an old man is here given as an illustration. Two years ago he suffered from diffuse cellulitis of the hand and arm, was reduced in condition by long drainage of pus, and nearly died. He was in a very atonic state for many months, there being an entire want of appetite. All that time he was spoon-fed, and lost rather than gained weight, though taken in hand by a special nurse, who was devoted to him. For the last month he has been taking spleen extract, and still has to be fed for want of appetite; but he has gained eight pounds and a half, and his breath, which was intolerably fœtid, is now quite sweet. In some cases increased salivation was noticed.

Bowels and Urine.—The evidence, so far, is not conclusive, and closer attention to this part of the subject is still required. In a few instances it appeared that the bowels were more active than formerly; in others, no change was observed.

Weight.—The weight curves of twenty-four patients who were systematically studied were found to vary exceedingly. While rise of weight in some cases was phenomenal, in others it was very moderate. One positive fact came out clearly—namely, that increase of weight, however slight, was the rule, and the exceptions were very few. Many, especially women, showed only a moderate increase, the rise being one, two, and three pounds in six weeks. Others gained fourteen, fifteen, seventeen, and thirty-one pounds and a half, in periods varying from ten to twenty-four weeks. Nine men increased an average of eight pounds and three quarters in an average of eight weeks, or a little over a pound a week. Fifteen women averaged eighty-five pounds a week. In those who afterward recovered mentally, a substantial gain was made. Four patients, one man and three women, lost. Of the women, one was phthisical, one was very fat (she improved mentally), and the third was in fairly good condition before the spleen treatment was tried. The man was a masturbator suffering from mitral disease.

Blood.—The results were rather inconclusive in the case of men, with two remarkable exceptions; but in the women positive improvement was more uniformly observed. Every case of the first two series was examined by means of the hæmoglobinometer and hæmacytometer (Gowers's method). In all the women, with one exception, there was a slight increase of hæmoglobin and red blood-cells. The exception showed, however, increase of red blood-cells from 4,470,000 to 4,590,000 to the cubic millimetre, and the hæmoglobin remained at eighty per cent. This method of examination is not exhaustive, and, so far as it goes, is only approximate in its estimate. It takes no account of the composition of the blood plasma or the actual volume of blood in circulation. That in most of the cases the blood was enriched—it may be temporarily only in some cases—as the result of improved digestion, goes without saying. In the women the blood was poorer to start with; hence the more manifest improvement in them.

Effect on Skin and Hair.—Increased color and warmth of skin were noted, also softness and elasticity; in some there was a slight oily condition, in others a moist condition, due evidently to gentle perspiration. It was not merely a case of determination of blood to the skin; for it was quite clear that there was also an increase of secretory activity. The increased warmth probably accounted for the slight increase of axillary temperature. In almost all the cases the change in the face was most noticeable; rubbing the skin of patients who previously showed little or no reaction of any account was followed by a glow of warmth and color. Improved complexion was noticed in pale, cold, anæmic women, in women with dry, sallow skins, and in pale-faced men. No conclusion, says Dr. Clark, has yet been arrived at regarding the hair, for the reason that very little attention has been given to this subject until quite lately, but the results are rather positive and favorable than negative. In many of the chronic insane, and in some recent cases also, the hair became dry and harsh to the touch, like the fibres of a broom.

Concerning the mental effects, Dr. Clark thinks they will be best understood by studying the cases referred to.

Concerning the spleen preparations, Dr. Clark states that fresh bullock spleen was employed, and the first preparation was made as follows: Fresh spleen, freed as much from its capsule as possible, was chopped, and beaten into a pulp in a jar. A liquid extract was obtained by adding a ten-per-cent. solution of chloride of sodium, and a ten-per-cent. solution of glycerin. This was allowed to stand for two or three days, with occasional shaking, and then squeezed through several layers of fine muslin. The next method was an improvement. The saline solution was reduced in strength, and twenty-per-cent. alcohol was substituted for glycerin. It was found, however, that a certain small residuum was not taken up in this way, and that it was fatty in appearance. This was obtained separately by ether extraction.

A fluid extract of which a drachm represented a drachm of fresh spleen is what was mostly used, as it was freshly prepared weekly, and by a less expensive process than the emulsion; but further investigation is necessary to demonstrate how much the one lacks what the other possesses. A more extended trial with tablets is also desirable.

Regarding the doses, Dr. Clark states that, as the emulsion is probably more potent than any of the other forms, care should be exercised in giving it. The largest dose he gave was a drachm four times a day, and no bad effects were observed. From the small quantity obtained of this preparation, there was enough only for two patients, who benefited physically, in whom the reaction, so far as skin and digestion were concerned, was like that in the other cases.

Of the fluid extract, from three to four tablespoonfuls a day are given now; but for a long time one, two, or three tablespoonfuls only were given three or four times a day. There was no occasion for anxiety or alarm from first to last. Nothing toxic has, so far, been noticed in the action of this remedy, but Dr. Clark advises caution in the use of the ethereal extract.

A Comparative Study of Two Cases of Asystole and of One Case of Acute Œdema of the Lungs in Parturient Women.—In a long and comprehensive article on this subject by M. Duplant, in the *Gazette hebdomadaire de médecine et de chirurgie* for January 30th, in which the histories of the three cases are given in detail, the following conclusions are reached by the author: 1. During pregnancy and labor there may exist symptoms of acute congestion of the lungs which may be evolved separately without the heart being in a condition of asystole. 2. When acute œdema of the lungs exists alone labor seems to aggravate it but feebly, although it accentuates the asystolic troubles; but the symptoms that occur after delivery are to be feared. 3. This aggravation of the acute œdema seems to be connected with the rupture of the utero-placental circulation; then the evacuation of the uterus, the hæmorrhage of the delivery, and the suppression of the utero-placental circulation relieve a heart in asystole. 4. The author believes that the acute congestive symptoms which were presented by one of the patients were connected with a reflex of uterine origin and with the modifications of the blood during pregnancy, the mitral contraction predisposing the lungs to these circulatory troubles. 5. It is necessary to terminate or provoke labor as soon as possible when there are grave asystolic symptoms or when acute œdema is added to the asystole. Expectant treatment may be advised when acute œdema exists alone, unless it assumes a subacute aspect. Phlebotomy is, in all cases, an excellent means of combating these symptoms.

The Treatment of "Inoperable" Sarcoma by Means of Coley's Fluid.—The *Lancet* for February 5th publishes a long article on this subject by Mr. C. Mansell Moullin in which he gives a detailed account of the treatment of sarcomata by Coley's fluid, together with the histories of several cases which have come under Dr. Coley's observation. These cases, says the author, have been thoroughly verified and authenticated, and they are neither few nor doubtful. But there is so much conflicting evidence that it is not an easy matter to form a definite opinion; however, the following conclusions seem to him to be justified at the present time:

1. It can not be denied that there is a considerable number of cases in which sarcomata that had been given up as hopeless often after repeated operations have absolutely and entirely disappeared under this method of treatment. There is no other method of treatment (except infection with the streptococci of erysipelas itself) of which this can be said.

2. In some of these cases the patients have remained free from recurrence for upward of three years, the period which, in the case of excision of the breast for scirrhus, is regarded by many operators as justifying the use of the term cured.

3. In several of the cases in which sarcomata have disappeared after an attack of erysipelas the patients have remained free from recurrence for seven years and upward.

4. The fact that there may be a few, a very few, cases recorded in which sarcomata have disappeared, either spontaneously or after such diseases as acute specific fevers, has nothing to do with these conclusions. (The statement that sarcomata do occasionally disappear is repeated with great regularity, but well-authenticated cases in which this has taken place, verified in the way in which Dr. Coley's have been verified, are very difficult to find.)

5. These conclusions are not in any way invalidated by the fact that injections of the mixed toxines are sometimes followed by the disappearance of other growths, such as lupus, keloid, syphilitic deposits, carcinomata, etc. It may make the disappearance of sarcomata more difficult to understand, but it in no way disproves it.

6. The proportion of cases of sarcomata in which the patients are cured by the injection of the mixed toxines depends among other things upon the histological character of the growths. Spindle-celled sarcomata are by far the most hopeful. This suggests the conclusion that the mixed toxines have a selective action, even if it is not specific.

7. The disappearance of sarcomata is not due to inflammation, but to an intensely rapid form of fatty

degeneration comparable only to that which affects the hepatic cells in acute yellow atrophy of the liver. Inflammation and sloughing, when they do occur, are septic complications.

8. Degeneration and absorption may occur whether the toxines are injected directly into the tumor or into some distant part of the body. In the former case, however, the effect is more rapid and the constitutional symptoms are severer.

9. The method is attended by a considerable degree of danger. It should, therefore, only be adopted in those cases for which there is no other remedy. The chief risk appears to be from collapse and pyæmia. There must always be danger of the latter if there is a suppurating or a sloughing sore. It may be argued that patients whose lives are immediately threatened by a malignant growth will never be cured by any remedy that does not involve some degree of risk.

10. The toxines are of no use unless the cultures are taken from a virulent case of erysipelas or are made virulent by passing the streptococcus through rabbits.

11. The *Bacillus prodigiosus,* in spite of theoretical objections, has the effect of immensely increasing the reaction.

12. The effect is most striking in the case of rapidly growing sarcomata. Slowly growing ones appear to have much more resistance. Probably this merely means that masses of embryonic cells with little organization give way to injurious influences more readily than those that are more closely knit together.

13. Patients often gain in weight and strength while under treatment.

14. Treatment should be continued until the whole growth has vanished or has become so small that it can be removed.

15. If there is a recrudescence of the disease it does not follow that the toxines will be as efficacious the second time as they were the first. Whether this is the result of tolerance having been established can not be said.

16. Recurrence in other parts of the body may take place after many years.

17. The severity of the reaction is very variable. Probably this depends upon the rapidity with which the injection is absorbed rather than upon any cumulative action it may possess.

Dr. Coley suggests that injections of the mixed toxines may be useful in preventing recurrence after sarcomata have been removed by operation. Incidentally it may be mentioned that injections of the streptococcus of erysipelas apparently never cause suppuration. If, therefore, the streptococcus of erysipelas is identical with the *Streptococcus pyogenes,* the name of the latter had better be changed.

The Association of American Anatomists.—At the annual meeting, which was held in Ithaca, N. Y., on December 28, 29, and 30, 1897, the following papers were read and discussed: A Fluid for the Retention of the Natural Colors of Anatomical Specimens, and Mummification of Small Anatomical Specimens, by Dr. P. A. Fish, of Ithaca; Comparative Anatomy and Embryology as Aids in the Teaching of Human Anatomy in the Medical Course, by Dr. George S. Huntington, of New York; An Adult and Healthy Living Cat lacking the Left Arm, except the Scapula, and having the Heart apparently at the Epigastrium, by Dr. Burt G. Wilder, of Ithaca; Relative Diameters of the Human Thorax, by Dr. Woods Hutchinson, of Buffalo; Pre-Columbian Syphilis, by Dr. D. S. Lamb, of Washington; A Craniomandibular Index, by Mr. Charles H. Ward, of Rochester; The Membrana Basilaris, Membrana Tectoria, and Nerve Endings in the Human Ear, by Professor Howard Ayres, of the University of Missouri; Certain Resemblances and Peculiarities of the Human Brain, by Dr. Burt G. Wilder; the Ape Cerebellum, by Dr. B. B. Stroud, of Ithaca; The Brain of the Fur Seal, *Callorrhinus ursinus,* by Dr. P. A. Fish; Eparterial Bronchial System of Mammalia, by Dr. George S. Huntington; The Relation of the Bronchi to the Thoracic Wall, by Dr. J. A. Blake, of New York; The Distribution of the Superior Mesenteric Artery, by Dr. Thomas Dwight, of Boston; Sebaceous Glands in the Mucous Membrane of the Mouth, by Dr. D. W. Montgomery, of the University of California; Notes on the Appendix, by Dr. B. B. Stroud; On the Relation of the Ureters in the Cat to the Great Veins, with Variations, by Professor S. H. Gage, of Ithaca; A Number of Specimens of either Unusual or especially Instructive Character, by Dr. Burt G. Wilder; and Notes on the Fish Fauna of Cayuga Lake, by Mr. H. A. Surface, of Cornell University.

The following papers were read by title: A Description of Two Koutenay Skeletons, and Two Examples of Unusual Ossification of the First Costal Cartilages, by Professor George A. Dorsey, of Chicago; The Relation of Sex to the Size of the Articular Surfaces of the Long Bones, by Dr. E. R. Hodge, of Washington; Anus Vulvalis, by Dr. J. T. Duncan, of Toronto, Canada; and A Skin-heart, by Dr. Woods Hutchinson.

The following officers were elected for the ensuing year: President, Dr. Burt G. Wilder; vice-presidents, Dr. George A. Piersol, of Philadelphia, and Dr. William Keiller, of Galveston; secretary and treasurer, Dr. D. S. Lamb, of Washington.

The Normal Shape of the Human Foot.—At a recent meeting of the Boston Society of Medical Sciences, a report of which appears in the January number of the *Journal of the Boston Society of the Medical Sciences,* Dr. E. H. Bradford read a paper on this subject in which he remarked that the human foot was and had been so generally distorted by foot-wear that the normal shape was not readily determined. A careful inspection of barefooted adults who had never worn shoes and a study of the feet in infants would, he thought, enable the observer to determine the appearance of the foot not affected by accidental conditions.

In the different positions of the foot in standing and walking the metatarsals and the toes were severally moved to aid in balance and in the support of weight. A certain amount of rotation at the mediotarsal articulation was normal, he said. The strength of the toes was greatest in barefooted individuals accustomed to use the fore part of the foot extensively in walking.

A French Society for the Prevention of the Abuse of Tobacco has just elected its officers for the ensuing year, says the *Gazette médicale,* and to judge from their number the society must be a large and flourishing one. They are: President, M. Decroix; vice-presidents, Dr. Hache, Dr. Leyssenne, Dr. Petibon, and Colonel Schuhler; secretary, Dr. Gélineau; treasurer, M. Auzoux; keeper of the archives, M. Ravenet. Besides these there are a host of other officers whose names can be of interest only to members of the society.

Original Communications.

THE HÆMOSTATIC FORCEPS IN EXSECTING THE APPENDIX.

By ALEXANDER J. C. SKENE, M. D.

Finding that the treatment of the pedicle of ovarian tumors with compression and heat applied with the electric current gives infinitely the best results, I have employed the same method in appendicectomy with equally fortunate and gratifying results.

The advantages of this method over the ligature for controlling bleeding, in abdominal surgery especially, have been discussed in relation to ovariotomy and hysterectomy in the *New York Medical Journal*, March 27, 1897, but there remains much to be said in regard to the practice of the method in salpingectomy and appendicectomy. Professor Emil Ries, of Chicago, has given (see *American Gynæcological and Obstetric Journal*, January, 1898) his unfavorable experience with the ligature in removal of the tubes and ovaries, and as my experience fully agrees with his I quote from his valuable essay. After noticing that Schauta and Chrobak report but little more than fifty per cent. of their laparotomy patients as really cured, Dr. Ries suggested that one of the most important causes of these unsatisfactory results was to be found in the formation of stump exudates, and offers a new explanation of this cause in the following observation of several cases in which microscopical examination was made of the uterus removed some time after salpingectomy.

"Stump exudates were found by Schauta in twenty-eight cases out of his one hundred and seventy-two salpingo-oophorectomies. They have been found even more frequently by other observers, and in my own experience I have repeatedly found them to be at the bottom of troublesome symptoms months after the operation. They produce pain, sometimes so severe that the patient is unable to attend to her work; in some cases the pain is even worse than it was before the operation. The exudates are found around the stumps of the removed tubes, and vary in size from a barely palpable thickening of the uterine horn to the size of a hen's egg or larger.

"As an explanation of the formation of these tumors, Schauta offered the following two possibilities:

"1. The inflammatory process creeps on through the uterine wall into the surrounding parametric and perimetric tissue; and

"2. Germs were present in the broad ligament at the time of the operation (though no actual observations could be offered as evidence of this), the connective tissue of the broad ligament was laid bare by the operation, and in this way the germs could invade the peritonæum.

"Though these observations did not meet with any opposition, it can not be overlooked that we have no observations bearing out the correctness of these hypotheses. Besides, I can not help feeling that they are very artificial.

"The cases are the following:

"Case I.—Mrs. J., twenty-four years old. Seven months previously a left pus tube and ovary had been removed. A sinus remained which would not close. Besides, the patient has an ovarian abscess the size of a fist, and hydrosalpinx on the right side. Uterus adherent all over, forming part of the wall of the sinus. I operated September 28, 1896. Laparotomy. Removal of ovarian abscess, hydrosalpinx, uterus, excision of sinus, which leads toward the right crista ilii and terminates in an abscess, which contains five silk ligatures. Recovery.

"The stump of the tube which had been removed seven months previously is excised and examined in a series of sections embracing the entire stump up to the interstitial portion of the tube. *The cavity is open throughout.* The epithelium is the usual low columnar epithelium of this portion of the tube and stops at the surface of the stump without investing the cut surface of the stump. No threads to be found in the stump.

"Case II.—Miss W., twenty-five years old. Several years ago removal of both tubes and right ovary. Now chronic pelviperitonitis and adherent retroflexion. Operation by Dr. W. H. Rumpf on December 8, 1896. Vaginal hysterectomy.

"Both tubal stumps are examined in series. *They are perfectly permeable,* though the cavity is very narrow. Epithelium well preserved up to the abdominal opening of the stump. Besides, the left tube contains some epithelial ducts outside the circular muscular layer of the tube, one of which enters the circular muscular layer itself, but does not show any communication with the tubal cavity (remnant of the Wolffian body). No threads to be found in the stump."

These same unfavorable results are reported by A. Lapthorn Smith in his "experience of two hundred and forty-nine abdominal sections" (*American Journal of Obstetrics*, No. 241, page 64). He has seen several cases from one to two years after the appendix had been removed, who were suffering from fæcal fistula or pericæcal abscess. This is the testimony of Armstrong also, who reported in the *British Medical Journal*, October 9, 1897, that fæcal fistula followed fifteen times in five hundred and forty-one cases. Smith very clearly proves that "because of the mucous glands which are imbedded in the mucous membrane of the appendix it is quite as unsurgical to put a ligature around the base of the appendix a quarter of an inch from the cæcum and then cut the appendix off as to propose to close an opening in the bowel by picking up the edges of the opening and tying a ligature around them, because this would simply bring mucous surfaces into contact, and, when the ligature has cut through or otherwise fallen off, the secreting glandular surface would separate and the contents of the bowel escape. Those who follow this method may say that they cauterize the mucous membrane after cutting off the appendix, and not only disinfect it but also destroy its secreting surface. But this, I maintain, is impossible for them to do, because they manifestly can not reach the mucous membrane brought together by the ligature, nor still less the part of it which lies below the ligature. If there were only one case of fæcal fistula instead of fifteen in five hundred it would be worth while preventing it.

"The ideal method, in my opinion, and which I have followed in these cases, is for an assistant to hold up the intestine an inch on each side of the appendix, and, after tying and cutting the meso-appendix, to snip the appendix off even with the cæcum. The hole in the intestine is then sewed up with fine silk, care being taken to include only the muscular coat. A director is then pressed upon the line of the suture until it sinks below the surrounding surface, when another row of sutures brings the peritoneal surfaces together. Such a closure will almost surely unite by primary union, doing away with all danger of fæcal fistula or circumcæcal inflammation, by which the opening in the appendix is sometimes closed, and in which cases, although there is no fæcal fistula, the patient is subjected to a good deal of discomfort while Nature is throwing out a layer of plastic lymph to seal the defective closure. Some authors recommend the peeling off of the peritoneal coat of the appendix so as to form a cuff a quarter of an inch long, and then, after tying and cutting off the appendix in the manner which is condemned above, make up for the defect by sewing the peritonæum over the end of the stump. This is much better than leaving a sloughing stump free in the abdomen, but is by no means as good as the method advocated above, in which no stump at all is left, and nothing but a fine, thin line of Lembert suture, which we know gives absolutely no trouble."

This same method was fully described by Haggard, of Nashville, in a paper reported in the *Transactions of the Southern Surgical and Gynæcological Association* at the tenth annual meeting in St. Louis last November. He summed up the merits of this method as follows: "Total excision of the appendix, with closure of the hole in the head of the colon, was said to do away with the following dangers: (1) Subsequent perforation of the stump under the ligature from infection in its own cavity, (2) abscess of the wall of the cæcum from invagination of the infected stump, (3) continuance of infected process from stricture in the stump between distal ligature and the proximal opening of appendix into the cæcum, (4) imperfect invagination, with incomplete drainage of the stump, on account of the cæcal wall being thickened and stiffened with inflammatory exudate."

I have not had an opportunity of examining, post mortem, the stump treated with the hæmostatic forceps, but have observed clinically that during the reparative process there was no immediate exudation that could be detected; neither have there been any remote exudates found on examination that caused pain. The recovery has been complete and permanent. This is as might be expected, from the fact that the lumen of the tubes and blood-vessels is completely obliterated by compression and heat, and does not, in fact can not, reopen. That complete disorganization of the mucous membrane of tubes or vessels and permanent closure of their lumen are effected has been demonstrated in many experiments.

This experience in ovariotomy and kindred operations led me to expect equally satisfactory results in appendicectomy, and my expectations have been fully realized in practice. In fact, this method of treating the stump of the appendix has special advantages in being the only satisfactory way of controlling hæmorrhage in softened septic tissues.

In salpingotomy, ovariotomy, and appendicectomy the surgeon often finds that the pedicle or point of separation is diseased, and the ligature is likely to cut the tissues if made tight enough to close the vessels; and if that is not the case the stump is infiltrated with septic material, which causes trouble no matter how sterile or aseptic the ligature may be. With the hæmostatic forceps the vessels and lumen of the tube or appendix, as the case may be, are completely closed and the stump thoroughly disinfected at the same time. I have had abundant opportunities to prove the advantages of this method of controlling bleeding vessels in pelvic surgery. I am now using it in other branches of surgery with equally satisfactory results.

The following case history is given as reported by my clinical assistant, Dr. Erdmann:

W. S. P., aged thirty-two years; a New York merchant, of medium build, active disposition, neurosanguine temperament, regular habits, primary assimilation and ultimate nutrition good. Physical examination reveals apparently perfect health. Complaint is made for the past month of a dull ache in the right iliac region, usually merely annoying, but at times severely lancinating and markedly distressing. There are no other symptoms, either gastric or intestinal, except that the bowel is inclined to constipation.

A physical examination was easily made because of the laxity of the abdominal wall, and revealed a small movable tumor in the region of the appendix.

The patient's condition does not prevent his continuance in the regular duties of his business; yet, in view of a history of six other similar attacks, he seeks relief from the pain and mental disquiet by operative procedure.

The patient enjoyed good health until two years ago last fall. The first attack was provoked, apparently, by a bath taken immediately after dinner. The local symptoms were typical of an inflammatory condition of the appendix vermiformis. The pain at first was general over the abdomen, beginning in the epigastrium, but soon became localized in the right iliac fossa. After four or five days of rest and medication relief was obtained, and the regular business duties were resumed. In February, 1896, while suffering from a severe cold, a second attack prostrated the patient. At this time the pain was at once localized in the region of the appendix, and recovery under treatment was retarded for nearly two weeks. Again, in May, 1896, after partaking heartily of lobster, the patient was seized in a similar manner for the third time. On this occasion his condition was deemed so critical that he was advised to submit to an immediate operation. After nine or ten days, however, he was relieved by medical treatment, and in a short while was able to attend to his business duties. Six months later, Thanksgiving day, 1896, an extended railroad trip was suddenly interrupted by a fourth attack similar to the preceding ones. This was followed by a fifth in February, 1897, and a sixth in May of the same year.

The attacks were all similar in their onset, nature, and course. The pain came suddenly, without any premonitory symptoms, and after the first time it was at once localized in the region of the appendix; there was no gastric disturbance except a slight nausea, nor intestinal, except tympanites; relief followed the exhibition of opium and local hot compresses. At the present time of comparative quiescence, and while he is yet in first-class condition to bear an operation, the patient has at last consented to the repeatedly advised surgical interference.

The operation was done January 11, 1898, by Dr. Skene. For the first time in the history of appendicectomy the method of operating with the electric hæmostatic forceps was used. This departure from the current methods of ligature, suture, cauterization, invagination, and others is the logical outcome of the success of Dr. Skene's practice when operating upon the pelvic viscera. All the other steps of the operation were such as are advised by surgeons generally. The incision was the ordinary one over McBurney's point, two inches in length. On inspection, both the appendix and the meso-appendix were found to be much enlarged and thickened, and superficially traversed by numerous dilated blood-vessels. There were no adhesions. The first grasp of the forceps was upon the meso-appendix close to its mesenteric attachment. A current which heated the forceps to 180° F. was then induced for half a minute. Upon removal of the forceps the tissues were found to be not charred but dried, having the appearance of white horny matter. Scissors were used to bisect this desiccated area. A second seizure was made upon the appendix itself close to the caput coli, and the same current continued for ninety seconds. The forceps was then removed and the tissue divided in the line of the desiccated area away from the caput. The same result was manifested. No charred tissue, no bleeding, and, more important than all, no escape of the contents of the appendix. The tissues had simply been dried out. Just at this point a rather violent attack of retching came upon the patient, which continued for nearly a minute, yet without inducing any change whatever in the stump. All the severe pressure and strain had not forced even a speck of blood or serum into the compressed area.

The abdominal cavity was left perfectly free from any foreign matter whatever. Sutures and dressings as usual. Time of operation, fifteen minutes.

Anæsthetic, Schleich solution No. 3 nine drachms. Time for induction of narcosis, seven minutes.

The specimen measures seventy-five millimetres in length and forty-five millimetres in circumference and is of an irregular S shape. The contents were about a drachm of pus, mucus, and broken-down cellular tissue. The meso-appendix is also much thickened, even to ten millimetres, and its greatest width is twenty millimetres.

A microscopic section made shortly after the operation, according to the Johns Hopkins "fifteen-minute" method, confirmed the diagnosis by exhibiting the typical structure of an old recurrent hypertrophied inflammatory change.

The convalescence has been unmarked by any complications due to the operation. When the sutures were removed after a week the parietal wound was perfectly dry and clean. At the close of another week the patient was sitting up, enjoying his newspaper and cigar, and was discharged from our care on the seventeenth day.

EPITHELIOMA (RODENT ULCER) IN A BOY OF FOURTEEN.*

By M. B. HARTZELL, M. D.,
INSTRUCTOR IN DERMATOLOGY, UNIVERSITY OF PENNSYLVANIA.

In July last a boy, A. G., sixteen years old, thin and anæmic, presented himself at the Skin Dispensary of the University Hospital for advice concerning a chronic ulcer of the face, situated over the left zygoma (see Fig. 1). This ulcer was of the size of a dime, irregularly rounded in shape, with an elevated, waxy looking, rolled-over border, and covered with a thick, black crust. According to the statement of the patient it had begun two years ago—when he was fourteen years of age—as a small pimple which lasted six months before ulcerating. Since the first appearance of the ulcer it has never healed, but has slowly and for the most part painlessly enlarged until it has reached its present dimensions. Close by its outer edge was a pea-sized tubercle, with a small central opening, of some months' duration; near the left ala nasi was another smaller tubercle, and upon the outer edge of the left nostril was a split-pea-sized superficial ulcer covered with a blackish crust, these three small lesions having appeared subsequently to the large one over the zygoma. A clinical diagnosis of epithelioma was made, notwith-

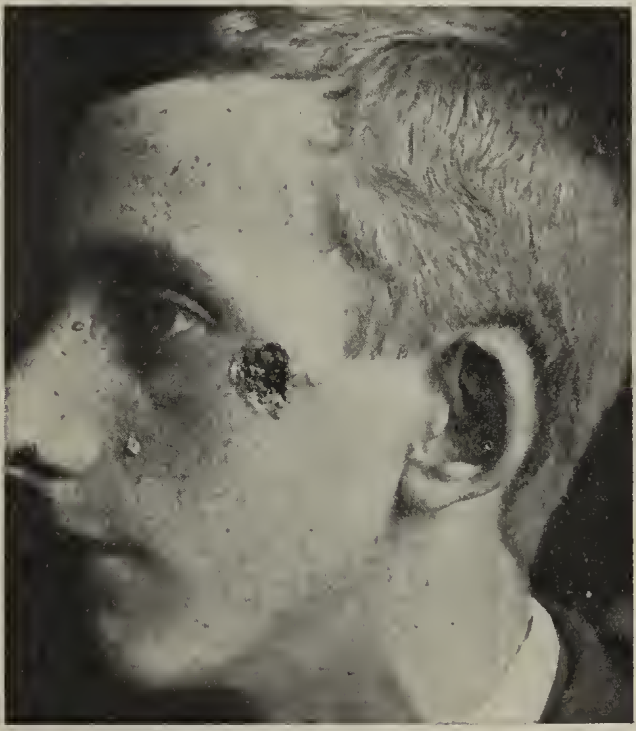

Fig. 1.

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* Read before the Philadelphia County Medical Society, December 22, 1897.

standing the youth of the patient. To confirm or disprove this a microscopic examination of sections obtained from the border of the ulcer was made. The microscope fully confirmed the clinical diagnosis, revealing a neoplastic structure consisting of a fibrous stroma in which were numerous irregularly shaped, branching tracts of columnar epithelium, and a round-celled infiltrate separating the neoplasm from the healthy tissues (see Fig. 2). A forty-per-cent. plaster of pyrogallol was applied to the largest lesion, more radical treatment not being employed on account of the patient's timidity, and continued for two weeks; after the removal of the slough thus produced the ulcer was dressed with an ointment of boric acid, one drachm to the ounce. Under this treatment healing rapidly took place, but it was apparent that there was still some epitheliomatous tissue left after complete cicatrization. The small ulcer upon the edge of the nostril was excised, and was found, upon microscopical examination, to present much the same structure as the one upon the cheek.

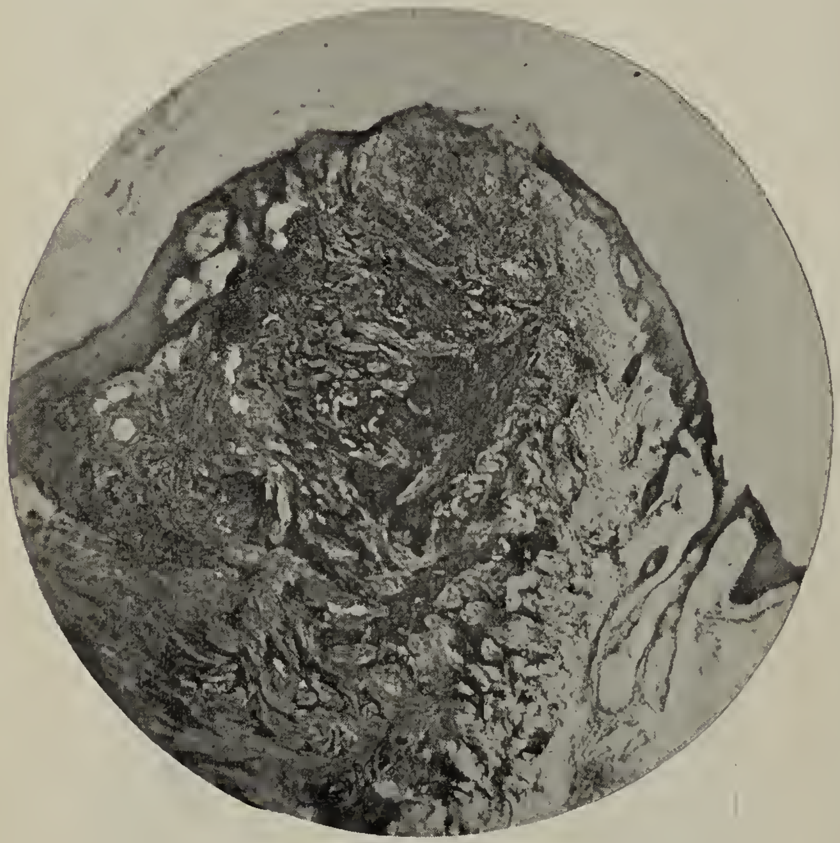

Fig. 2.

In twenty-seven cases of rodent ulcer Roger Williams * found the average age at which it began to be 44.4 years in males and 42.1 years in females, while in twenty-two cases of other forms of cancer of the skin the average time of beginning was about ten years later —*i. e.*, fifty-five years. A considerable number of cases, however, occur much earlier, but before twenty epithelioma is an extremely rare disease. Williams † has also reported a case of rodent ulcer occurring at fourteen years of age. The patient was a girl, the disease beginning as a small pimple upon the left temple. Curetting, cauterization, excision were without avail, the malady causing the patient's death after twenty-one years. Thin ‡ quotes Morris as having seen a case which began at fourteen. Kaposi, in his treatise on *Diseases of the Skin*, speaks of having seen several patients between the ages of eight and eighteen, but no details are given. Lossen has reported a case of epithelioma of the forehead occurring in a young girl eighteen years of age, the subject of a pustular acne which produced marked scarring. Over the left brow was an ulcer of the size of a two-mark piece, the diagnosis of epithelial cancer being confirmed by the microscope (*Archiv für klinische Chirurgie*, Bd. xxiii). Excision was followed by complete cure, there being no recurrence after one year. Nobiling has observed an epithelial cancer on the scalp of a young man twenty years of age, and Arnott * one upon the left labium of a girl of twenty. Winiwarter † has seen a case of carcinoma of the external ear in a young man of nineteen. The earliest period of life at which epithelioma has been observed has been reported by Demonceaux,‡ this observer recording a rapidly progressive case of epithelial cancer of the skin of the thumb in a child five years of age; the diagnosis was confirmed by the microscope.

In connection with this subject of epithelioma in early life brief reference may here be made to that rare malady first described by Kaposi, and named by him xeroderma pigmentosum, in which ulcerative lesions resembling in their structure and behavior epithelioma occur in quite early life, associated with pigmentation and atrophy of the skin and the formation of numerous telangeiectases. These lesions are, however, but part of a multiform process, occurring in some cases with tissue alterations resembling other malignant growths, such as sarcoma.

In conclusion it may be noted that a very large proportion of the small number of cases of epithelioma occurring in early life belong to that variety known as rodent ulcer; this tendency to early occurrence is shown very conclusively by Williams's statistics quoted above.

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* *Middlesex Hospital Report*, 1888.
† *British Medical Journal*, 1890.
‡ *Cancerous Affections of the Skin.*

* *Transactions of the Pathological Society*, 1873.
† *Die chirurgisch. Krankheit. der Haut.*
‡ Quoted by Winiwarter, *loc. cit.*

GALVANIZATION AND GALVANO-FARADIZATION,

WITH A DESCRIPTION OF A VOLT GRADUATOR FOR ADAPTING THE INCANDESCENT CURRENT FOR MEDICAL PURPOSES.#

By A. D. ROCKWELL, M.D.

The differential indications for the use of electricity in medicine constitute a very interesting and sometimes difficult problem.

Do we desire mechanical effects, we find them either in the faradaic or sinusoidal currents or in the spark discharge of static electricity. Chemical effects come

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# Read before the New York Neurological Society, December 7, 1897.

only, or mainly, through the galvanic current, while physiologic effects, as seen in increased respiratory combustion, with increased heat radiation are not confined to the action of high-frequency currents, as so many seem to imagine, but may result from every manifestation of electric energy. In the eagerness of workers in electricity to find something new, undue prominence has been given to high-frequency and sinusoidal currents.

Execution by electricity has made familiar to the community the terms volts and ampères.

Those who read know that seventeen hundred volts are sufficient to kill, and therefore the spectacle of an experimenter placing himself in a circuit carrying a current alternating hundreds of thousands of times a second, at a pressure of thousands of volts, is simply astounding and seemingly inexplicable. Men wonder at it, and false deductions are drawn in respect to the physiologic and therapeutic properties of such currents.

That the harmlessness of currents of such voltage is not due to rapidity of alternation is altogether probable from our knowledge of the Leyden-jar discharge. It is a discharge of high frequency of alternation. The rate, indeed, of its oscillations is enormous, amounting to the incredible and inconceivable number—in a pint-sized jar—of ten millions a second. The measure of the efficiency of any agent is its power to do work, and the truth plainly stated in regard to these currents of enormous frequency would seem to be that their quantity, or strength, or power to do work is exceedingly limited. It is in the chemical action of the current that we are to look for its strength, and in Faraday's great law, that the elements that are evolved (electrolysis) are definite in quantity and electro-chemical equivalents of each other, lies the whole pith of the matter. The ampèrage of these high-tension, high-frequency currents is small—is, indeed, infinitesimal—and in both medicine and commerce it is ampèrage that does the work.

"The experiments with high-frequency currents of high tension are harmless if the magnitude of the current is small; and as the high potential is, in fact, obtained at the expense of the current, this latter diminishes in proportion as the potential is raised by each successive step up in the transforming apparatus. For the present it may be taken as not yet proved that high frequency of alternation can render electric currents harmless, and it may still be accepted that the effect produced by the passage of a current through living tissues depends primarily upon the magnitude of the current, as measured in ampères, which is made to traverse them, and upon its density or concentration therein."

While, therefore, indications are not wanting for the use of every form and gradation of electricity in medicine, it is to the galvanic or chemical current that we must turn for what is best and most efficient in the therapeutic application of electric energy, and refuse to be blinded or confused or misdirected by the specious arguments of enthusiastic theorists. Take, for example, the power of electricity to relieve pain. Every physician with much experience in the use of electricity knows well how capricious its action seemingly is in the relief of pain.

Pain comes from so many different causes and is often so fleeting that it may be difficult to distinguish between the effects of the means employed and the "*vis medicatrix naturæ.*" Obvious as the fact is, it can not be too often repeated that there can be no pain without compression of nerve fibre, either of the extreme periphery, the trunk of a nerve, or of the nerve centres, and that pressure is due mainly to hyperæmia, effusion, or foreign growths. Much and long experience with every form of electricity has convinced me that the pains relievable by the external application of currents of high tension or voltage, but lacking in quantity or ampèrage, whether these currents come from the ordinary high-tension faradaic coil, are sinusoidal and of high frequency, or generated by the high-potential static machine, are invariably of a transient and superficial character. On the galvanic current we must in great measure rely for such relief of pain as electricity is capable of giving, and the essential reason why so many fail in this is the too timid use of this current, or because of lack of available current strength and suitable electrodes for application. With those in common use it is often impossible to apply any adequate current strength without injury to the skin and intolerable pain. Now, in order to relieve pain, it is necessary either to obtund the sensation by anæsthetics or hypnotics, or employ some method that will "let up" the nerve pressure. A familiar example of this is the application of heat. It sets up a sort of circulatory drainage, relieving blood stasis and pressure and the resultant pain. On the same principle, only with far greater reach of power and permanency of result, do we resort to the galvanic current.

No other manifestation of electric force is comparable to it in its influence upon the central nervous system and the vaso-motor nerves, for not only is it capable of relieving the distress dependent upon simple circulatory disturbances, functional hyperæmia, but it frequently alleviates and long holds in check even the pains of malignant growths. The simultaneous application of the two forms of dynamic electricity through a single electrode is no new thing. In the first edition of my work on electricity occur these words:

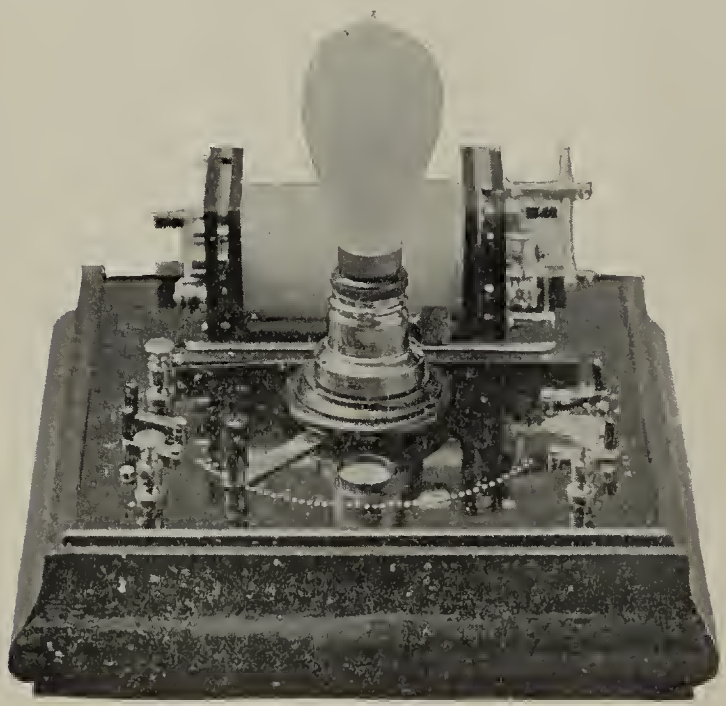
"In order to secure the advantage of both currents, and at the same time to avoid the trouble and inconvenience of employing them in succession or alternately, as is so frequently necessary, we have devised a method of using them simultaneously. To this method we have given a name which sufficiently expresses its character—galvano-faradization. It may be either general or localized. "Whether any special therapeutical advantage arises from the simultaneous use of the two currents we are unable to state." The difficulty of satisfactorily combining the two currents with the conveniences at hand at that time induced us to drop the subject and omit mention of it in successive editions.

More recently, however, owing to the excellent facilities that have developed for the utilization of the combined currents, I again became interested in the subject and am able to answer in the affirmative the question of long ago, Whether any special therapeutic advantage arises from their simultaneous use?

The instrument * that has enabled me more carefully to study the subject is a volt graduator for the purpose of adapting the incandescent current for medical purposes, and the points that render it worthy of special notice are the readiness with which the strength of the current is graduated in volts, and the ability at will to combine and graduate the two forms of dynamic electricity.

It gives also a true sinusoidal current when connected with an alternating-current generator.

The volt graduator comes under the head of shunt controllers, but is radically different from other instruments of its kind.



The current strength is regulated entirely by varying the electro-motive force on the "fall-of-potential" principle, instead of varying the resistance by means of a rheostat. The range of the instrument is from 0 to seventy-five volts, and the electro-motive force may vary through this entire range, with the consequent variation in current strength, without readjustment or change of connections, simply by moving a lever arm over contact points, opposite which is a scale graduated in volts. The electro-motive force changes one volt at a time up to thirty volts, and three volts at a time from thirty to seventy-five volts. For cataphoresis there is a device for a much finer degree of graduation. The conductor between contact points is wound non-inductive, and as there is no breaking of the circuit the shock due to a change in electro-motive force is imperceptible. By turning a switch, a change from galvanic to faradaic current, or *vice versa,* is made, the faradaic current being controlled with respect to strength by the lever arm in the same manner as the galvanic. By turning another switch the instrument is adjusted for supplying a comparatively strong current at a low voltage, suitable for lighting miniature lamps, operating high-tension coils, electric mallets, etc. In the simplest form of the instrument there are but two binding posts for electrodes, from which the current for all purposes is taken. On the complete instrument there is a third binding post, which yields a stronger faradaic current and enables us to transmit through the electrode and into the body both currents, the galvanic and faradaic, at the same time.

We have thus the faradaic superimposed upon the galvanic, as indicated both by sensation and the milliampèremeter, and with each under independent control.

The simultaneous action of the two currents is most interesting. Beginning with the faradaic current, the initial force of which is the selected voltage from the incandescent system on the fall-of-potential principle, we gradually let into the circuit the direct, or chemical, or galvanic current itself. Both currents pass through the milliampèremeter, the faradaic, of course, without influencing it in the least.

Increasing gradually the strength of the galvanic current, but feeling only the well-known mechanical effects of the faradaic, we yet see the evidence of the action of the galvanic in the deflection of the needle, until its characteristic burning sensation begins to be felt, and this can be increased to the full power of the seventy-five volts at our command.

At the same time the strength of the faradaic current can be increased or diminished at will, according to the indications.

That the faradaic modifies somewhat the action of the galvanic current is evident from the fact that the milliampèremeter registration during the simultaneous use of the two currents is somewhat greater than when only the galvanic is being applied. The explanation suggested is that the resistance of the body is immediately lowered by the passage of the faradaic current. If it is not always an easy matter to differentiate in the use of the different forms of electricity, it is even more difficult to decide as to the relative efficiency of the galvanic alone and in combination with the faradaic.

Galvanization relieves pain, and so also does galvano-faradization; but that the latter method will not only relieve pain, but succeed in other therapeutic ways where the other fails, or is only partially successful, my experience does not permit me to doubt. One of the most satisfactory proofs of the efficacy of the combined currents was afforded in a recent case of rheumatoid arthritis, for which previous treatment by electricity had accomplished little or nothing. The right knee joint had been inflamed for many months, resulting in probable degenerative changes and marked deformity, while the pain was so constant and severe as to prevent sleep without the nightly use of an opiate. Galvano-faradization simply to the point of easy endurance afforded immediate relief, and its persistent use so improved the patient in relieving tenderness and swelling that he was enabled to sleep without an opiate, could bear his whole weight upon his knee, and with some difficulty could walk alone.

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* With certain necessary modifications suggested by myself, this instrument was devised and is made by W. J. Shields, of New Wilmington, Pa. The high-tension induction coil in combination was supplied by the Kidder Manufacturing Company, of this city.

This he had been unable to do for more than a year.

In exophthalmic goître, where the galvanic and even the faradaic current, according to some, have so often proved beneficial, I have with the combined currents succeeded in several cases after only partial success with the usual methods. In a case sent me by Dr. Richard Derby, where the three cardinal symptoms were distinctly marked, the pulse was reduced by persistent treatment from 112 to 90, but it was not until galvano-faradization was substituted for galvanization that further reduction was apparent. It gradually sank to seventy-five, and still remains at that figure, while the great prominence of the eyes was reduced to normal. The goître itself shows no marked signs of further reduction, since the enlargement of the thyreoid was at no time very pronounced.

The combined currents act both mechanically and chemically upon the thyreoid body and its nerve supply. If, therefore, we accept the familiar theory that Graves's disease is a disease of the thyreoid rather than of the nervous system, and that the symptom complex is due to the production in the thyreoid of some toxine which acts on the whole nervous system, the rationale of the apparent superiority of the combined currents over the single current in this disease would seem to be even clearer than if we ascribe the symptoms to the nervous system alone.

POSSIBILITIES OF COCAINE.

By J. A. GUTHRIE, M. D.,
PASSED ASSISTANT SURGEON, U. S. NAVY.

The use and possibilities of cocaine have, ever since the discovery of its local anæsthetic property, been so hackneyed that most of us are averse to discussing the drug; however, a short record of one particular case may prove interesting to your readers. The case I wish to report and have in mind was one of not a few in my experience as a naval surgeon where in an emergency the unprepared physician is put to his best at quick and honest judgment. At the time I was detailed upon a small steamer belonging to the treasury department as surgeon to a party of government officials off on a semiofficial trip. It became necessary during this short cruise to fire a salute, and the only available gun was an old style muzzle-loader of about four inches calibre. Owing to lack of space and other causes the facilities afforded for surgical work were curtailed, those at hand not being practicable for serious work. Moreover, my help could only be secured from inexperienced and untrained sources—snatched, as it were, haphazard from among the enlisted men of the crew.

Perhaps the best plan by which I may describe the operations would be to give as near as possible the facts as they actually appeared recorded in the medical log of the vessel, which is as follows:

A., seaman, aged twenty-nine years and five months, native of Sweden, enlisted June 8, 1892, at Baltimore, Maryland. "Vulnus laceratum" (both hands); origin in the line of duty, due to injury when in the performance of his duty on board this ship. The patient was at the time acting as a loader for a muzzle-loading howitzer engaged in firing a salute. While withdrawing the rammer, after the charge had been rammed home, a premature explosion took place, due, evidently, to fire remaining in the powder chamber, as the gun had only a few moments previously been discharged. This premature explosion destroyed the rammer he held in his hands, causing a frightful laceration of these members, the right hand being completely severed from his wrist. Both forearms were badly burned, as also his face, neck, and chest, with here and there small wounds caused by the splintered wood of the rammer. One of the largest of these splinters penetrated his left forearm near the wrist, severing the radial artery, which had to be cut down upon and ligated both proximally and distally.

When the accident occurred I was on deck a short distance from the saluting, and my first intimation of it was seeing the man hastening toward me holding out his profusely bleeding arms. I immediately seized him by the arms and made digital pressure on both brachial arteries (thereby spoiling my new uniform with his blood). With some assistance he was soon got below decks and placed upon the chart-room table. The man was exceedingly excited; however, within a short period the necessary tourniquets were applied, and he had received morphine sulphate (a quarter of a grain) and atropine (one one-hundred-and-fiftieth of a grain) hypodermically. The case required immediate action, so, as the ether and chloroform had by some misadventure been misplaced, after sponging the raw surfaces I applied cocaine in four-per-cent. solution liberally, repeating the applications at intervals throughout the entire operation. When the drug had taken effect, a rapid cutting away of uneven tissues and ligation of arteries was begun.

The right hand: First row of carpal bones disarticulated from the second row, torn tissues trimmed, flexor and extensor tendons partially stitched together or ends smoothed off, all bleeding vessels controlled, and then a fair but poorly approximated skin flap made and sparsely fastened over the denuded bones. The main object in mind being to avoid undue waste of tissue in shaping this flap, after stopping the hæmorrhage I dressed the stump with the usual antiseptics. When I had finished and removed the tourniquet on the right arm my attention was directed to the other arm.

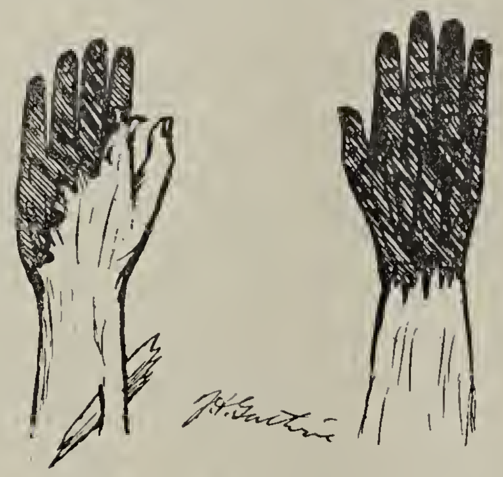


Fig. 1.—The shaded areas indicate the parts destroyed.

The left hand: Thumb entire; first phalangeal joint of index utterly denuded of skin and partially so of periosteum; other fingers entirely destroyed. It became necessary to rapidly consider an amputation at the wrist, but I decided on attempting to save the first joint and thumb. The metacarpal bones were trimmed off evenly with bone forceps, beginning at the base of the fifth and running a line diagonally to the head of the third. The skin and periosteum were drawn over the phalanx, and from the palmar surface a fairly good flap was obtained for the metacarpals. There was, comparatively speaking, little difficulty in securing the many bleeding points due to tearing of both palmar arches, owing in part, perhaps, to the fact that the radial had already been cut down upon and ligated. Ultimately, the hand was dressed antiseptically and the patient placed in bed. Both amputations were performed under the best antiseptic precautions available on board a small government steamer, which, to say the least, were surprisingly better than I expected.

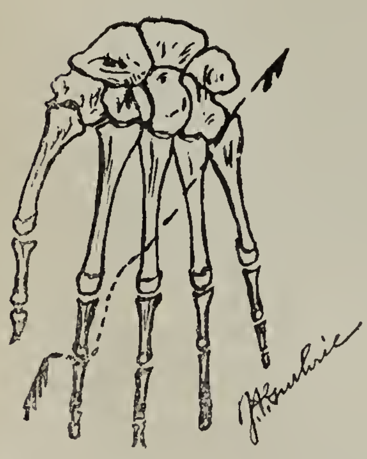


Fig. 2.—The left hand, dorsal aspect. The arrow shows the direction of amputation through the bones.

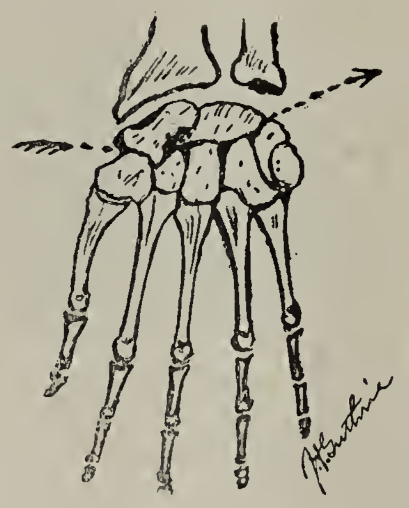


Fig. 3.—The right hand, palmar aspect. The arrow shows the direction of the amputation.

As before mentioned, no general anæsthetic was used, and, although the patient was much excited and restless during the ordeal, yet he never once complained of pain; his only admonition being to hurry through. I did hurry, and was generous with my cocaine; the whole affair, as I remember, did not consume as much as an hour. When I was through, and the patient was comfortably lying in his cot with good respiration and circulation, I asked him if he had felt any pain during the cutting, to which he answered in the negative.

A few hours afterward we steamed into port and he was transferred to a hospital.

It has since been learned that the primary dressings were not removed for several days, and when it was done the wounds were observed to have taken on a perfect healing process, with not the slightest sign of pus formation. Later yet, after his entire recovery, the man was seen, and it was discovered that with the first phalanx of his index and the thumb of the left hand he had mastered the art of writing—a qualification he had been delinquent in before meeting with this reverse of fate.

So much for local anæsthesia as represented by one of its purest exponents; however, the peculiar exigencies of this one case can not, to my mind, establish the use of cocaine in every major operation, but in this age of experiment and discovery of new drugs, when we are pushed for time and have no other representatives at hand, let us give some of the more venerable discoveries a chance. My desire, therefore, in reporting these simple facts is not to force an opinion, but to offer the use of the drug as a *dernier ressort.*

REPORT OF A CASE OF PSEUDO-LEUCÆMIA,

WITH AUTOPSY.

By R. E. DORAN, M. D.,
ASSISTANT PHYSICIAN, WILLARD STATE HOSPITAL.

This report is made because it seems to the writer that pseudo-leucæmia is a sufficiently rare disease to justify the putting on record of every well-marked case. There are several noteworthy points in this case which in themselves are sufficient reason for reporting it.

L. M., a Danish woman, aged forty-eight years, single; occupation, domestic. Has been twenty-five years in the United States. She was admitted to Willard State Hospital on April 18, 1879. Diagnosis (mental) on admission, chronic mania.

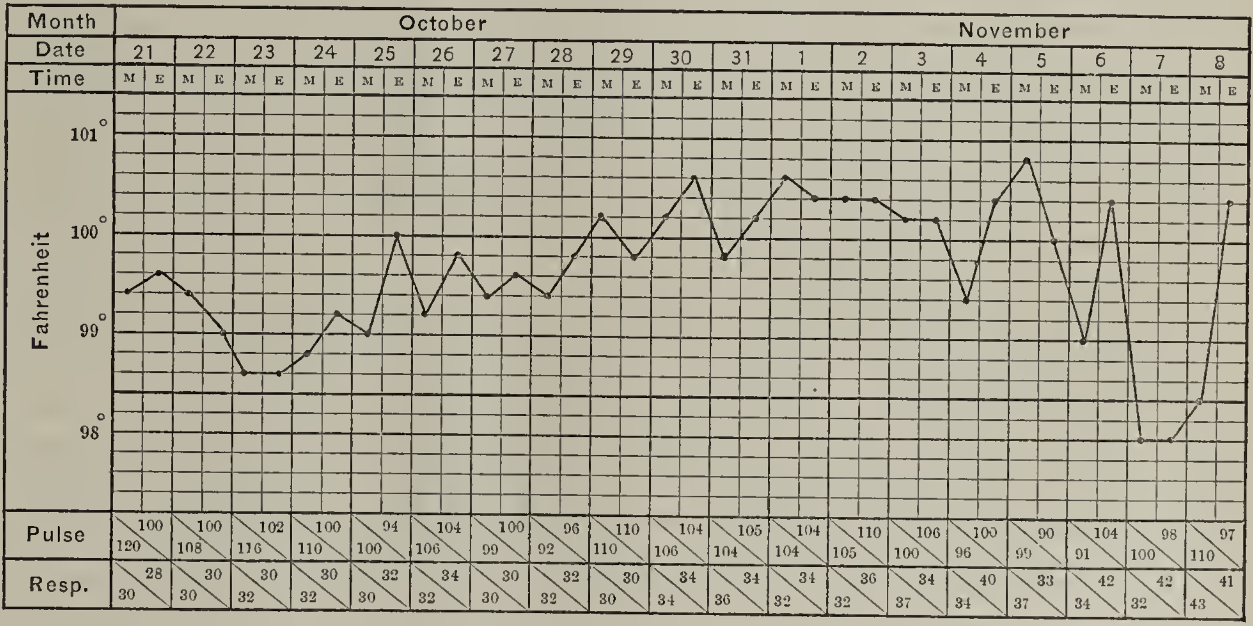
Nothing definite could be learned of her family history. The patient is one of a pair of twins. She has a brother living and in good health. Nothing of interest concerning the early personal history of the patient could be obtained. Since her admission she has been a quiet and industrious patient. Never showed any particular physical symptoms except constipation and occasional so-called "bilious attacks." These she has had ever since her admission. During these attacks she was always confined to bed for several days.

She was always in fair physical condition, however, until the early summer of 1897. At this time she began to complain of being easily tired and became somewhat pale. Her attendants state that there has been a gradual failure, physically, since that time.

The patient first went to bed on October 13, 1897, complaining of constipation, anorexia, headache, general muscular weakness, ringing in the ears, palpitation, and vertigo. At this time I first saw her and was struck with the marked anæmia, as well as the enlargement of the submaxillary and sublingual glands, which were quite apparent. The axillæ and groins were examined on this date, but the glands in these regions showed no enlargement. The following day an examination of the blood was made with the Thoma-Zeiss apparatus, and only three million red blood-corpuscles were found to the cubic millimetre. The white corpuscles were not increased in number. A thorough physical examination was not made at this time, but the spleen and liver were percussed and both found to be greatly enlarged.

The case was diagnosticated as one of Hodgkin's disease, and for a time the patient was kept under observation without trying any but simply symptomatic medication. Rochelle salts were given to move the bowels, and sulphonal in ten-grain doses was given at night to overcome the insomnia and restlessness which were marked features of the case.

The patient rapidly lost flesh, and the anæmia became more profound. Vomiting, which was a troublesome symptom at first, was controlled successfully by ten-grain doses of cerium oxalate before any nourishment was taken. The lymphatics in the neck and about the inferior maxilla enlarged rapidly until they produced a swelling large enough to obliterate the outlines of the lower jaw. Three days after I first saw the patient an enlargement of the right axillary glands was noticed. The following day the glands in the left axilla and right inguinal region were found to be affected. These glands all increased rapidly in size until those in the right axilla and left inguinal region had attained the size of hens' eggs. Those on the left side were not quite so large. The glandular involvement was much more prominent on the right side of the neck, where there was a chain extending from the angle of the jaw to the clavicle. The right tonsil and right parotid gland were markedly enlarged. The corresponding glands on the left side seemed not to be affected.



The temperature was slightly elevated from the time I first saw the case. The chart shows the temperature curve during the last nineteen days of the disease.

A careful physical examination, made on October 20th, revealed the following: Patient was fairly well nourished, but showed signs of rapid emaciation. Anæmia marked. Skin roughened and wrinkled. Peculiar greenish tinge to skin over the entire surface of the body. Face had a cachectic appearance and was puffy, especially over malar bones. Conjunctivæ extremely pale. Tongue fairly clean; slightly coated in middle; protruded with fine tremor. Marked enlargement of submaxillary and sublingual glands, especially on right side. Cervical glands on right side just above clavicle very much enlarged. Slight enlargement of left lobe of thyreoid. Right parotid gland and right tonsil enlarged. Left, normal. Axillary glands markedly enlarged on both sides, especially the right. Respirations, thirty in the minute. Some dyspnœa when the patient was in a recumbent position. Lower end of sternum deformed. Xiphoid cartilage projected forward and appeared as if it had at some time been injured. Apex beat of heart in third intercostal space two inches to left of sternum. Inspection of abdomen showed marked fullness in epigastric region and in both hypochondriac regions, especially the right. The ribs in this last-named locality bulged outward in a striking manner. Inguinal glands were much enlarged on both sides. No signs of œdema were present anywhere on the body, except the fullness of the face already mentioned. There were no purpuric spots.

Palpation showed the following: Pulse, 92, full, and of good tension. Affected glands had a firm, hard feel, and did not appear to be attached to the skin. Were not tender when handled. Abdomen was soft below the umbilicus, but hard and resisting above. Liver could be felt below the ribs extending downward for several inches. Spleen could also be felt, and was noticed to move when the patient took a deep inspiration.

Percussion.—Liver dullness began at the seventh rib and extended downward six inches and a half to the level of the umbilicus. Spleen dullness began in the axillary line at the ninth rib and extended downward to a point about a finger's breadth above the crest of the ilium. Liver dullness extended to the left across the median line and seemed continuous with that of the spleen. Spleen dullness seemed to fill the entire left hypochondrium and to extend into the epigastrium. On percussing over ribs and sternum the patient complained of pain. This symptom was not present when the tibiæ or any of the other bones were percussed.

Auscultation showed systolic murmurs at the apex and base of the heart, and a venous hum in the vessels of the neck.

Examination of the urine showed nothing abnormal, except an unduly large amount of urate of sodium and uric acid.

October 20th.—Arsenic in the form of Fowler's solution was given in five-minim doses after meals. This dose was continued for three days, and then increased to ten minims after meals.

27th.—Armour's glycerin extract of red bone-marrow was given in drachm doses after meals. This was continued from that time steadily until the patient's death.

Within three days after arsenic was given there seemed to be a slight diminution in the size of all the glands visible. This became more marked during the next few days, and the diminution continued steadily and rapidly until November 1st, when the glands had almost reached their normal size. There was no corresponding diminution in the area of spleen or liver dullness. Neither was there any increase in the number of red blood-corpuscles. On the contrary, the number steadily diminished, and at the time of the last count, November 8th, there were one million eight hundred thousand to the cubic millimetre.

The disappearance of the superficial glandular enlargement did not lessen the subjective symptoms in any particular. The vomiting returned November 2d, and the arsenic was discontinued. The vomiting continued and for two days before death was almost constant. The dyspnœa became more severe and the patient complained constantly of a dragging pain in the left side of the abdomen. At no time was there any evidence of hæmorrhage until November 2d, when a small purpuric spot was noticed on the right side of the neck. This was the only spot of the kind anywhere on the body. During the week following there were several slight attacks of epistaxis. A loose cough was present during the last few days of the disease. This was attended with a slight expectoration, which was at times bloody. The vomited material was at first greenish and watery, but for three days before death was dark and resembled coffee grounds in appearance. At no time was there any hæmorrhage from the intestines.

The patient died suddenly at 7 A. M., November 9th.

Autopsy, by consent of relatives, at 2.30 P. M., November 9th, seven hours and a half after death. Body emaciated. Skin of a yellowish color. Marked fullness of abdomen in region of lower ribs. All superficial lymphatic glands slightly enlarged.

Cranium was not examined.

Thorax.—Pleuritic adhesions on both sides, especially at the left apex.

Both pleural cavities contained a small amount of serous fluid. Posterior mediastinal glands as large as peas and of firm consistence. Bronchial glands enlarged; some as large as hickory nuts. Heart weighed twelve ounces. Left ventricle hypertrophied. Mitral valves thickened and incompetent. Aortic valves normal.

Abdomen.—All abdominal viscera, except the spleen, extremely pale. The liver filled the entire right hypochondriac and epigastric regions and extended downward below the ribs for five inches. It also extended across the left hypochondriac region, where it came in contact with the spleen. The liver weighed eighty-six ounces and a half. Capsule adherent. Firm in consistence. Considerable resistance when cut. An infarction was present on the upper and outer aspect of the right lobe. This was three quarters of an inch in diameter at the periphery and extended about an inch into the liver substance. The spleen filled the whole left hypochondrium and extended downward almost to the crest of the ilium. The weight of the spleen was fifty-one ounces and three quarters. It measured ten inches from above downward and was about five inches in width and three inches in thickness at the upper portion. It pressed upward, causing the displacement of the heart. The stomach was crowded upward and backward between the liver and spleen. The spleen showed no marked change when cut, and appeared normal in consistence. The mesenteric glands were uniformly enlarged. The retroperitoneal glands were much enlarged, especially those in the lumbar region. These formed a hard mass on the anterior surface of the lumbar vertebræ which inclosed the abdominal aorta. This mass was four inches long, about two inches and a half wide, and an inch thick. Both kidneys were enlarged. The right weighed six ounces and three quarters, and the left six ounces and a half. Both suprarenal capsules were enlarged and softened. Both kidneys showed chronic interstitial changes. The left contained two large cysts. There was no fluid present in the peritoneal cavity.

The principal features in this case are that it occurred in an old case of chronic mania which had passed into a mild form of dementia. The disease had made considerable progress when I first saw the patient, yet she had never made any definite complaint, and had been able to do considerable work and to take regular exercise until then. This is of interest in showing how far a serious disease may advance in dements before it causes them to complain. The utmost duration of the disease was not over five months. During the time I had it under observation (twenty-seven days) it made very rapid progress.

The arsenic seemed to be the cause of the improvement in the condition of the superficial glands. The glands frequently show remarkable and sudden variations in size in the disease, it is true, but in this case the arsenic evidently arrested an enlargement which was becoming more prominent daily, and finally caused it to almost entirely disappear. The case, therefore, adds one to those where arsenic has caused absorption of the glandular tumors. The spleen and liver were carefully watched with the hope of finding some diminution in the size of these organs during the administration of the arsenic, but there was no apparent change in the area of dullness on percussion.

The bone marrow was used as an experiment, but as it was not given until the disease was far advanced, and then only for a short time, no beneficial effects were hoped for and none were obtained.

SYDENHAM AND RUSH.

A BRIEF NOTICE OF OLD WORKS.

By FRANKLIN STAPLES, M. D.

Two old volumes on the practice of medicine came into my possession several years ago, I think from the library of some New England or New York physician of other days. Both books are editions of the works of

Thomas Sydenham; one edited in London, 1753, by John Swan, M. D., the other in Philadelphia in 1809, by Benjamin Rush, M. D. The comprehensive title-page of the earlier book, which in itself is suggestive of eighteenth-century medical history, has a poetical eulogy of the author, added by the editor, and reads as follows:

"The Entire Works of Dr Thomas Sydenham, Newly Made English from the Originals: wherein the History of Acute and Chronic Diseases, and the Safest and most Effectual Methods of treating them, are faithfully, clearly, and accurately delivered. To which are added, Explanatory and Practical Notes, from the best Medicinal Writers; with others by the Translator, further Illustrating the principal Matters, and teaching the Practice of Inoculation, the Use of Chalybeates, and mineral Waters, with the Remedies and Regimen proper for nephritic Patients.

"The third Edition, with all the notes inserted in their proper Places: By John Swan, M. D."

Then follows the poem:

"Sydenham, a great, a mighty genius came,
Who founded Med'cine on the noblest frame:
He study'd Nature thro, and Nature's laws,
Nor blindly puzzled for the peccant cause.
Father of physick He—Immortal Name!
Who leaves the Grecian but a second fame.
Sing forth, ye Muse, in sublimer strains,
A new Hippocrates in Britain reigns:
With every healing plant his grave adorn,
Savior of many Millions yet unborn.

"London: Printed for E. Cave, at St. John's Gate, MDCCLIII."

Dr. Swan dedicates the work to Dr. Shaw, and in his laudatory dedication speaks of him as "a gentleman of the faculty, who, besides his own valuable writings in the medical way, has labour'd so successfully to oblige the world with the works of Bacon and Boyle." Dr. Swan is now known principally by his connection with this work.

The time of the making of this edition of Sydenham was an important one in the history of the progress of medicine. Cullen was at Glasgow, and was about to begin his great work of instruction at Edinburgh; the Hunters were doing their life work in London; C. C. von Siebold about this time founded his famous school for surgeons at Würzburg; Sauvages, the French botanist, was at Montpellier, and had just then published his work, *Nosologia methodica;* the great Swedish botanist, Linnæus, made his work, *Species plantarum,* of the same date as this edition of Sydenham, and the pupils of these and of other teachers in the schools of Europe were preparing to begin the work of instruction in America. The date of this old book, now at hand, antedates the beginning of the first medical school in this country by Dr. Shippen and Dr. Morgan, of Philadelphia.

A little more than a half century after the publication of Swan's Sydenham in England, Dr. Benjamin Rush, in 1809, published his American edition of the work. He dedicated it to his students in the college, which institution, beginning as the College of Philadelphia forty-four years before, had now been eighteen years the medical department of the University of Pennsylvania. This was after the experience of Dr. Rush as a military surgeon in the War of the Revolution, after the most of his laborious practice, and after his experience in two epidemics of yellow fever, which in 1793 and in 1798 existed in Philadelphia. He had in 1794 published a history of the first epidemic, in which he declared that yellow fever was an endemic and not a contagious disease. By this publication he incurred the enmity of citizens and many physicians. He nevertheless adhered to this belief during his life. As said by his biographer, Dr. Samuel Jackson: "Like his great prototype, Sydenham, he had resolutely pursued the path of duty, and trusted to a good Providence that it would lead him to a good end."

Dr. Rush, in his letter of dedication to the students, speaks of the English doctors, Wallis and Swan, as the annotators of the works of Sydenham, and speaks of their notes as "learned and elevated"; but gives as a reason for the production of his own edition, that "they do not apply to the diseases of our country, nor to the practice which is accommodated to them."

An important feature in Sydenham's teaching was that concerning the effects of climate and season, and of disease tendencies at certain times. Section V, Chapter I, of his work, has the following subject: "Of the epidemic Constitution of part of the year 1673, and of the years 1674, 1675." He says: "About the beginning of July in 1673 there arose another kind of fever, which did not prove very epidemic, because the constitution was not yet so entirely disposed to favor it, as wholly to exclude the diseases of the preceding constitution"—meaning by "constitution" the epidemic cause or influence in the disease. Again, on epidemic diseases in general, he observes: "If one were to examine all the branches of physic, nothing perhaps would appear so surprising as the different and perfectly dissimilar face of epidemic diseases; which do not so much relate to, and depend upon the various seasons of the same year, as upon the different constitutions of different years." The specific disease-germ was not then on hand to claim its place as a factor in endemic and epidemic diseases.

Dr. Rush, in his edition of Sydenham, abridges the elaborate title of Swan, but adds the words: "With notes intended to accommodate them to the present state of medicine, and to the climate and diseases of the United States." The matter of the effects of climate in the ætiology of disease was to him a very important one.

Dr. Rush was a student at Edinburgh in 1766, and became a follower of Cullen. He had been charged with sympathizing to some extent with the doctrines of John Brown. Dr. Samuel Jackson, in his biography of

Dr. Rush, speaking of him in connection with the system of Brown, says: "The doctrine of life he adopted with some modification; but the system of medicine, which its wonderful author appended thereto, he utterly rejected"; and further says: "It has been very common, and a shameful ignorance it is, to identify the systems of these teachers. Nothing can prove greater obliquity of mind or more glaring ignorance than to call Rush a Brunonian." * The sum and substance of the Brunonian system was this: The body is a passive machine; the means or condition of life, a quality termed excitability; life a result from the action of stimuli on this; moderate action constitutes health, and insufficient or excessive action is the whole of disease. The extent to which Dr. Rush adhered to the teaching of Sydenham appears in his revision of his work on practice. The following further extracts from Dr. Rush's letter of dedication of the work to his students show his criticisms of some of the doctrines of Sydenham. The student of the present time has an advanced standpoint from which to consider the comparative merits of the two early English and American teachers.

Says Dr. Rush: "The principal errors of this (Sydenham's) work appear in the following:

"First, a general belief in the salutary operations of Nature in disease." Thus Sydenham adopts and Rush rejects the doctrine of the agency of the *vis medicatrix naturæ* in disease. This was a strong part in the teaching of Sydenham, and was by him made a feature in English medicine, which has continued.

"Second, a belief in morbific matter as the cause of diseases, and in the hypothetical doctrines of 'fermentation,' 'ebullition,' 'digestion,' 'separation,' 'desquamation,' and 'expulsion,' of this morbific matter, in order to cure those diseases." In this matter present knowledge would seem to give the right of way to the side of Sydenham.

The third point in the teaching of Sydenham to which objection is made by Rush is given as a belief in the practicability of dividing and distinguishing diseases by certain marks, such as characterize plants and animals, and which, says Dr. Rush, "has been attempted by Vogel, Segar, Linnæus, Sauvages, and Cullen." The words of Sydenham which occasioned the objection on the part of Dr. Rush were these: "All diseases ought to be reduced to certain and determinate kinds, with the same exactness as we see it done by botanic writers in their treatises of plants." This was the teaching of Sydenham in the latter half of the seventeenth century. The classification of diseases on a natural-history plan was adopted and taught by Cullen at Edinburgh, and is the groundwork of his work, the *Synopsis nosologiæ methodicæ*, published in 1769. In this, as in therapeutics, Hermann Boerhaave also was largely a follower of Sydenham. But, says Dr. Rush on this matter of nosology and classification, "Happily for our science, the doctor has furnished us, in his history of the combinations of epidemicks, and of the changes of diseases into each other, with complete refutation of this error."

Further objections are as follows: "I consider our author's definition of disease to be erroneous—viz., that it is a vigorous effort of Nature to throw off morbific matter, and thus to recover the patient; instead of which, I believe a disease, to use the definition he has rejected, to consist 'in the confused and irregular operations of disordered and debilitated nature.'"

"Fifth, the preference which our author has given of vegetable to mineral remedies, is an error which has been refuted by the immense aids which medicine has lately derived from the mineral kingdom.

"Sixth, his belief in a specific remedy for the gout is an error which has tended very much to restrain free inquiry into the nature and cure of that disease.

"Seventh, his belief in the contagiousness of the plague has been proved to be erroneous by the observations of many physicians, particularly by Dr. John Pringle and Dr. Pye, in the beginning of the last century, and by several of the physicians who accompanied the French and British armies in their expeditions to Egypt in the year 1798." In this matter of the contagiousness of the plague it is known that Dr. Rush was led to change his belief. It is said that he began to suspect that he had indulged in a serious error in believing the yellow fever contagious; but that he was very slow and cautious in making this important change. At first he thought it fully contagious, then only in concentration; lastly, he satisfied himself that it was not such under any circumstances whatever. There was at this time a fierce contention on this matter of the contagiousness of yellow fever. Says Dr. Jackson in his biography of Rush: "The fever ceased with the frost, but the medical war—*bellum plusquam civile*—retaining its heat without intermission, refused to freeze." It is quite probable that a vote on the question at the present time would place Dr. Rush in the later belief, and Dr. Pringle, Dr. Pye, and the "many physicians" on the side of the minority. The definition of yellow fever now accepted is "an acute, specific, infectious, contagious, paroxysmal, malignant fever." The nature of the contagium of the disease has come to be understood by recent investigations in bacteriology. It is evident that Dr. Rush was correct in his words to his students when he said: "With all the praise that has thus been lavished upon Sydenham's works, it is highly probable that future generations will esteem them more than the generations that have existed between the time of their publication and the present day."

With these and a few other objections Dr. Rush explains and declares as follows: "Let not the strong advocates for the fame of Dr. Sydenham complain of the number of the errors in his writings which have been or which may be mentioned. They were perhaps wisely permitted to restrain pride in intellectual gifts and attainments, and to console the physicians of succeeding ages for his singular pre-eminence over them in every department of practical medicine. To enumerate the many truths that are contained in the work would be to transcribe, with the exception of a few pages, nearly every part of it.

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* Dr. Jackson, in *Lives of Eminent Physicians and Surgeons*, by Samuel D. Gross, 1861, p. 34.

"To dispose you still more to appreciate the work which I have the pleasure to inscribe to you," says Dr. Rush to his pupils, "permit me to add that it is the anchor which has saved our science for more than a century, when it has been driven from its moorings by erroneous theories, and even by those of our author as well as of other men." It has, moreover, been held in the highest esteem by the most distinguished physicians in every part of the world. Dr. Boerhaave has celebrated it in an elegant Latin oration; Dr. Haller has enriched his *Bibliotheca medicinæ* with copious extracts from it; Van Swieten's *Commentaries* upon Dr. Boerhaave's aphorisms owe much of their usefulness to the numerous quotations from it, which have blended with his account of acute diseases. Dr. Stoll, of Vienna, complained of medicine being a chaos until he met with Dr. Sydenham's works, which soon changed its apparent darkness and confusion into light and order.

The life and work of Sydenham was in a period in medical history when theory and hypothesis were regarded as the essentials in scientific investigation and the basis of knowledge. His teaching tended to show the greater importance of observation of the phenomena and actual existences in disease. In the preface to his work he says: "In writing a history of disease, every philosophical hypothesis which has prepossessed the writer in its favor ought to be totally laid aside; and then the manifest and natural phenomena of disease, however minute, must be noted with the utmost accuracy." With the knowledge of pathology available even then, Sydenham was able to effect what is now seen as important advancements in the science of medicine.

Professor William Osler, in a recent address before the British Medical Association, gave Sydenham's place in medicine as follows: "Sydenham—*Angliæ lumen*, as he has been well called—is the model practical physician of modern times. Linacre led Harvey back to Galen, Sydenham to Hippocrates. The one took Greek science, the other not so much Greek medicine as Greek methods. Sydenham broke with authority, and went to Nature. He laid down the fundamental proposition and acted upon it, that 'all diseases should be described as objects of natural history.' Sydenham led us back to Hippocrates. I would that we could be oftener led back to Sydenham."

Dr. Roswell Park, in his recent historical work, gives briefly the character and work of Dr. Rush as follows: "The most conspicuous character of the century in American history was undoubtedly Benjamin Rush (1745–1813). He was one of Shippen's earliest students in anatomy, studied widely abroad, was a member of the Continental Congress, and one of the signers of the Declaration of Independence. He was an extensive writer on a variety of subjects, not only professional, but political, philosophical, etc. He recognized but two kinds of remedies, stimulants and depressants; and held it to be the principal duty of the physician to decide which were most advisable in a given case. He called calomel the 'Samson' of the materia medica, and his opponents contended that he was right, since it had undoubtedly 'slain its thousands.' As an accurate observer of disease he was correct and exact, and his descriptions are to-day both classic and reliable."

Thomas Sydenham, beginning as he did without means with which to obtain his education, by his own energy and perseverance became, and in a great measure has continued to be, the great exponent of modern English medicine.

FRACTURE OF THE SKULL WITH SOME UNUSUAL SYMPTOMS.

OPERATION. RECOVERY.

By GRAY G. HOLLADAY, M. D.,
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On November 25, 1897, at about a quarter to five o'clock in the afternoon, C. S. and a fellow laborer became involved in a difficulty, and C. S. was struck over the left eye with the back of a "cotton hook." He walked to my office, a distance of several squares, where I saw him at about a half after five o'clock. On examining his head I at once found a depressed fracture of the skull, although the skin over the fracture was unbroken.

During the examination he sat still, said he was suffering no pain, and felt as well as he had ever felt; he had wanted to go on working, but his friends had insisted on his seeing a physician. He now talked as well as a man could and told me all about the trouble, who had struck him, told me where he (C. S.) lived and how to get there, said that just after receiving the blow his nose had bled slightly, and while at my office it again bled slightly.

A few minutes after six o'clock Dr. Maupin came in, and upon my asking the patient a question, to get the history for Dr. Maupin, we found that it was only by shouting at him that we could get him to answer at all, and when he did answer, we found that he could not answer fully, always leaving out certain words, notably family names; for instance, he knew his first name but not his last, he knew the first but not the last name of the man who had struck him—in fact, did not seem able to remember any last names, as well as other words, although from the expression of his face I should say that he was making a great mental effort to recall the words he wanted.

I went out of the room for a very few moments to send a telephone message, and when I got back I found that he could talk all right again, could now answer the very questions that before I left he had failed to answer. This ability to talk lasted for about ten minutes, when he sank into a stage during which he answered any question or remark with the expression, "Dog'ed if I know!" This expression was not used so much as an answer as an expletive, for several times when not spoken to, or in fact when no one was speaking, he suddenly said "Dog'ed if I know!" About this time his pulse began to intermit, and he began what appeared to be intended for a long harangue, but of which not one word was intelligible; this harangue only ceased when a frightfully severe convulsion set in. The convulsion came on some minutes after we had ceased in any way to notice the patient, and were talking among ourselves in an undertone, and our first intimation that anything was going to happen was that the harangue would be interrupted for a few seconds, and during the interruption his lower jaw was drawn strongly over to the right. During the convulsion his right arm and leg remained passive and did not move about as did his left. During the convulsion he vomited a large amount of partly digested food. Immediately after this convulsion I tested (roughly) sensation of his two arms and legs, and found that a pin-prick of right arm or leg to cause any movement had to be more severe and longer continued than one on left arm or leg. Sensation was lessened and delayed.

A few minutes after this convulsion another set in and was of longer duration; at its termination he was carried home, where he had several more pretty severe convulsions.

At about half past eight o'clock, assisted by Dr. Maupin, Dr. McMurran, Dr. V. G. Culpepper, and Dr. Carr, I began preparations to trephine the skull. I had the patient given chloroform, and, making a curved incision several inches in length, beginning about three fourths of an inch above the eyebrow and going right to the bone, I turned the flaps back, and then raised and turned back the periosteum. I found the skull fairly crushed in for a space about an inch long and a half inch wide. The bone was fractured like the shell of a hard-boiled egg, but, like the eggshell, each small piece was held in place. I trephined and removed a button of bone. The edge of the trephine opening was just a little distance from the edge of the fracture.

On putting in an elevator I found the depressed bone resting right on the dura and pressing on the brain, but I got the elevator under it and was without much difficulty enabled to raise the depression. The dura being untorn at the seat of the fracture, and as it did not bulge at all, pulsation could be both seen and felt. I did not open it. I now drew the periosteum over the opening and sewed it up with a continuous catgut suture, sewed the scalp up with an interrupted suture, and left the lower end open, putting in four strands of catgut as a drain.

I am told by the anæsthetizer that from the moment the depressed bone was raised, the patient's pulse began to improve.

The patient was put to bed at about 9.30, and at eleven he came fully from under the influence of the chloroform, and was then as rational and as well able to talk as ever. He got up before daybreak to pass his water, against my orders to his nurse.

From the time of operation until the present time his temperature has never been above 99°, nor pulse above 84 (one day that).

On my seeing him the next morning I ordered ten grains of calomel and a quarter of a grain of podophyllin, and for several days afterward he had three stools a day (against my advice and instructions he always got up and used a bucket), but on the fourth day I found him complaining of sore mouth, and on examining it found him pretty badly salivated. [This is the second case this year in which I have seen salivation follow the administration of calomel after a brain injury and coming on several days after the bowels had moved very freely.]

The operation was done by lamplight in a negro's cabin, with an improvised table consisting of two rough boards resting on two trunks.

The wound, except at the point kept open for drainage, closed by first intention.

The patient to-day (December 28, 1897) seems as well as he ever was. His sight, hearing, taste, and smell are perfect. At first there was some weakness of the right arm and a feeling of heaviness in the same arm after any exertion, but that has now passed away and the right arm is as strong as the left.

The first day he went to work (December 13th) he was put to loading cotton in bales on a boat, and worked at this for ten hours. He has been working steadily ever since.

After a close study of the above case and as full an examination of the literature I had at hand as I could make, it has seemed to me that this case is worthy of being reported, for certainly some of the symptoms are unusual in a fracture of the frontal bone, and certainly can not be explained by saying the depressed bone caused them—that is, alone.

INDUSTRIAL LEAD POISONING.

By W. R. HOBBS, M. D.,

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IN the presentation of this paper, I wish to confine myself to the poisoning by lead as it occurs among those who manufacture the commercial article which is used by painters in their daily vocations; not that the symptoms will differ from lead poisoning by other sources, but to treat the subject as it came under my observation during four years' experience among the lead employees. Hence, in the ætiology of the subject, I shall not take up the multifarious ways or conducing agents by which lead is taken into the system, but in a brief way refer to the inhalation of the dust as it floats around the factory, absorption by the skin and directly being conveyed to the mouth by improperly cleaned finger nails, also by the mustache while eating the food.

In a subject of this kind, which is not an everyday one (except to a few who may be located near a factory), we find that the literature is very limited, unsatisfactory, and the subject capable of a good deal of investigation; hence I shall confine myself to the cases the symptomatology of which is classified from personal observation.

SYMPTOMS.—The symptoms may be divided into four classes: (1) Mild; (2) severe; (3) chronic; (4) cerebral and neuro-muscular.

Mild.—In the mild cases the patients complain of dizziness, pains in the chest, especially at the lower edge of the sternum, stomach, region of the umbilicus, back, thighs, and calves of the legs. In the abdomen one patient describes it as if pins and needles were stuck into him, or he feels as if there was a string around his waist being drawn tight.

They complain of nausea, poor appetite, inability to sleep well, drowsiness, moderate constipation, with blue lines on the gums at the junction of the teeth with the gums. In the urine there is not found albumin or sugar.

Severe.—In this case, if the patient has been working some time, he will have a preceding anæmia, colicky feelings for a short while, with irregular pains in various parts of the body.

If the patient has only worked a short while, we shall have a robust person brought down with the same symptoms. Hence the patients will complain of a peculiar sweetish taste in the mouth, intercostal pain, substernal pain, also pains in the back, thighs, and calves of the legs, more especially intestinal colic, which is of an excruciating character. It is located in the region of the umbilicus. In some cases it is a constant pain, in others of a paroxysmal and lancinating character. One man described it as if a lot of mice were nibbling at him. What the colic is due to is not yet settled. It has been attributed by some to the effect of the lead upon the nerve ganglia, by others to an action upon the muscular coat of the arteries. In animals that have died from lead poisoning portions of the intestines are irregularly contracted; in some portions the spasm has been so complete as to obliterate its calibre. In a case I had a few weeks ago I could outline the small intestines distinctly; they were hard and tightly contracted, and could be felt for three days. After the bowels moved they could not be felt.

Together with the colic there is *obstinate constipation.* In every case of a severe character I have had this to contend with, ranging from two to six days, the average being two and a half to three days. During the paroxysm there is in most cases a decrease in the urine, the specific gravity ranging from 1.020 to 1.030, but without any albumin or sugar.

In every case that has come under my observation there has been the characteristic blue line on the gums. In many cases the gums were ulcerated and contracted, giving the teeth the appearance of being much longer than usual. In cases that have been studied microscopically there have been found in the gums numerous black granules of the sulphide of lead.

The temperature, as a rule, is not elevated. In only two cases a temperature of 100° was noted. The pulse varies in severe cases; in many it has ranged between 60 and 70, while in a few it has been from 90 to 100.

The gastric symptoms were prominent in every case; nausea and vomiting to a greater or less degree were present, and I found it useless to administer any drugs until the stomach had been washed out.

Chronic Lead Poisoning.—In these cases we have the history of one or more attacks of the severe symptoms, or a gradual loss of flesh and strength, together with a peculiar cachexia. There is a yellowish hue to the skin and conjunctivæ, with expressionless features, which is so characteristic that the men will advise each other to lie off a while or they will be down with acute symptoms. They complain of poor appetite, irregular pains, restlessness, and languid feelings, the pulse ranging about 65. Urine, no albumin or sugar. In one case under observation there was complete numbness in both hands and in the finger tips for two weeks, signs of an oncoming storm.

Cerebral and Neuro-muscular Form.—In this group I shall give the separate cases with symptoms.

Case I.—A man, aged thirty-two years. Worked eight months; was suddenly taken with an epileptic fit in the morning in the street car while going to work; for three days was in an excited condition, mind wandering, incoherent speech, then followed wrist-drop; the man was thus in a helpless condition. He continued to improve in mental and bodily vigor, and, by constantly training his hands to light employment, he has recovered the use of his wrists and hands to such an extent as to do a moderate amount of manual labor. Is still excitable and nervous, but has not had any more epileptic attacks.

Case II.—A man, twenty-five years old. Worked six months; had no medical attention during that period; was seized while in bed with an epileptic fit; immediately following was very excited, restless, sleepless, with incoherent speech; the second night had another attack, with symptoms following the same as before. He improved under treatment, ultimately recovering, but had no memory of what occurred on the day previous to his first seizure.

Case III.—A man, aged thirty years. Worked six months. Weighed two hundred pounds when he started; gradually decreased to a hundred and seventy pounds. Had a couple of mild attacks, became anæmic, with the general symptoms of the chronic variety. When called, I diagnosticated a case of meningitis, which ran an acute course for fourteen days, the patient finally recovering under the ordinary treatment.

Case IV.—A man, aged fifty-five years. Worked ten years; had a severe attack of lead poisoning, followed by wrist-drop; later the muscles of the wrist and hand atrophied, and were blue and cold. The thenar and hypothenar eminences were shrunken. The deltoid, and brachialis anticus had also atrophied on both sides. The extensors and flexors of the forearms had lost all power. The arms hung loosely at the sides, helpless. The case improved with open-air and tonic treatment for a while; the man resuming his position of foreman, precipitated further poisoning. Hence we found him after four years with a dilated heart and mitral regurgitation; kidneys showing parenchymatous changes, with albumin and casts in the urine. Sleeplessness was the rule, lack of memory, listlessness, difficulty of breathing; later, œdema of the lower extremities, anasarca, the patient dying in this condition.

Age and Conditions affecting Susceptibility.—Age: Very little difference has been noted; more has depended upon the care taken by each individual, also the different positions of exposure in the manufacture of this product, there being more dust flying around in some parts than another.

I have noticed that people of a nervous disposition are quickly affected and difficult to treat. Again, a well-fed individual wards it off longer than one who has been half starved previous to being employed.

In some cases symptoms were produced in two weeks, and varying from this to fourteen years. Two months ago I treated for the first time a man who had worked steadily for fourteen years without an attack.

Prophylaxis.—In order to prevent the inhalation of the dust, protectors are worn that fit closely around the nose and mouth, with sponges in the centre which are kept moist; yet in spite of this the dust finds its way around the edges on to the mustache and into the mouth and nose. Hence shaving the upper lip and face is advised. Keep the teeth clean by using a soft toothbrush before each meal, scrubbing the hands and finger nails, washing with hyposulphite of sodium, and a warm bath daily. Take plenty of fresh milk daily, lemonade and sulphuric acid in it occasionally. Keep the bowels moving daily; if not, use Epsom salts. Stop alcoholic liquors of all kinds. Do not work on an empty stomach. These constitute about all the preventive measures to date, and until lead is manufactured by electrolysis or methods in which the dust is self-consumed, or the skin protected from absorbing, lead poisoning will be more or less prevalent among the workers.

Prognosis.—In mild cases recovery is the rule. In severe ones complications may arise at any time, such as wrist-drop, meningitis, epilepsy, Bright's disease, any of which may be permanent; or, with outdoor employment and treatment directed to the complications, recovery, partial or complete, may be expected.

Morbid Anatomy.—Thomas Oliver, in an article recently published, gives his researches as follows: The morbid anatomy of acute plumbism is practically *nil.*

In lead encephalopathy the brain is shrunken and dry. It may appear as if it had been compressed, all the blood-vessels being constricted. The brain substance may be pale and extremely firm, or pale and œdematous, as in cases of uræmia.

The kidneys are found in an atrophied condition, with interstitial changes in progress. The epithelium of the convoluted tubules is swollen, fatty, granular, and crowded with *débris.* The liver, like the kidneys, is the seat of marked changes; here is found the largest amount of lead by chemical analysis. The cells are atrophied, granular, with fatty changes going on. Hence, owing to the functional activity of these organs being interfered with, metabolism is deranged.

Sachs, in his latest work, tells us that lead acts most powerfully on the peripheral nerves, and that in the majority of cases lead paralysis is the expression of a neuritis.

Gombault insists that lead causes a circumaxillar neuritis, the sheath of the nerve being more affected than the axis cylinder and relatively healthy portions of nerve intervening between diseased parts.

Steeglitz has also shown that lead produces changes in the spinal cord as well as in the peripheral nerves.

In animals fed with lead salts there was produced loss of appetite, constipation or diarrhœa, nervousness, albuminuria, and rapid emaciation. Death generally ensued when one third of the bodily weight was lost. Most of the animals were paralyzed in the hind legs.

The chemical changes occurring after lead has been taken into the lungs are as follows: The salts becoming deposited by the alkaline juices of the respiratory tract are first converted into carbonates, then into the more soluble bicarbonates; the symptoms then are quickly induced and are more severe than when lead is swallowed.

Entering the gastro-enteric tract, the salts are acted upon by the gastric juice, the hydrochloric acid converting most of the lead into a soluble chloride. When they have passed into the intestines with the acid chyme, the bile acts as a dissolving agent upon the salts formed. When they come in contact with sulphureted hydrogen, which is always present, it is probable that an insoluble lead sulphide is formed and thus eliminated.

Statistical Report.

AGE.	Length of time before first attack.	Number of cases.
Mild.		
35	2 weeks.	
30, 43	2 months.	2 cases.
24, 20	3 "	2 "
25	6 "	
19	8 "	
35	1 year.	
Severe.		
55	2 weeks.	
38	4 "	
24, 32	6 "	2 cases.
35, 30, 28	2 months.	3 "
24, 35	3 "	2 "
27	4 "	1 case.
26, 40, 28, 27	5 "	4 cases.
25, 26, 30, 30, 45, 30	6 "	6 "
32	8 "	1 case.
26	9 "	1 "
31, 45, 28, 25, 30	12 "	5 cases.
28	14 "	1 case.
30	3 years.	1 "
40	4 "	1 "
57	5 "	1 "
45	6 "	1 "
55	10 "	1 "
55	14 "	1 "

The total number of cases is forty-two; of mild ones, eight—the patients being attacked in from two weeks to a year, the ages ranging between nineteen and forty-three. The severe cases number thirty-four. Length of time before first attack, two weeks to fourteen years. In this group there was one death. I have reserved conclusions from this statistical report for a future paper.

Treatment.—We have yet to find the specific for treating lead poisoning with any degree of satisfaction. My method now is, in mild cases, to give Epsom salts or any saline cathartic every two hours till free catharsis follows, together with antipyrine, phenacetine, or antikamnia for the pain. After a day or two I follow this up with iodide of potassium in a vegetable tonic mixture, or a dilute hydrochloric-acid mixture in a bitter tonic, or a mixture with dilute hydrocyanic acid to ease the pain in the stomach. I change them as the case demands.

Severe Cases.—Vomiting, pain, and constipation are to be combated; hence, for the vomiting I use the stomach pump, washing the stomach out with a gallon of warm water saturated with bicarbonate of sodium; for pain I use turpentine stupes, hot applications, mustard plasters, hot baths, and electricity.

If the pain is not held in check by these measures, then morphine or opiates are administered, and I never give the latter without feeling that the already existing constipation is augmented.

Constipation.—This trouble, which is found in every severe case, is the most difficult to overcome. I use to start with enemata of soapsuds and water three times a day. If the stomach will tolerate medicines, calomel and soda, Epsom salts, compound cathartic pills, or Hunyadi water are given. If these are not successful, five capsules are ordered, each containing one minim of croton oil, two minims of fluid extract of belladonna, and a sufficient quantity of bicarbonate of sodium. These are to be administered every two hours till free catharsis is produced, and at the same time enemata of salts, or enemata of olive oil with five minims of croton oil included; also hypodermics of a thirtieth of a grain of strychnine twice a day. The changes are rung as the cases demand. I usually find that pain, vomiting, and other severe symptoms abate with the free action of the bowels. I then follow this up with potassium iodide, fifteen to thirty grains in a bitter tonic, three times a day, after meals. I never give the iodides during the acute symptoms, as they aggravate the trouble. Dilute hydrochloric acid, or dilute nitrohydrochloric acid, or dilute hydrocyanic acid may be given as the exigencies of the case demand. The diet should consist of beef tea and chicken soup during the acute symptoms, until the bowels move, then milk and a mixed diet until recovery takes place.

Chronic Cases.—Keeping away from lead works, plenty of milk, fresh air, outdoor employment, and continuous potassium iodide in a bitter tonic generally bring the patient through.

My case of meningitis was treated in the usual way with ice cap, free purgation, and bromides, then later with potassium iodide until recovery took place.

Of the two wrist-drop patients, one is still carrying the deformity, but very much improved by outdoor exercise and employment. In the other, I used electric applications on his arms for twelve months without effect. He died from complications last year.

Of the epileptic cases, one patient has not had any return; he was treated with bromides, and later with iodides, and is now feeling quite well. The other has not had any return of the fits, but carries the wrist-drop, and will probably do so as long as he lives.

2816 Sherman Avenue.

Therapeutical Notes.

Leistikow's Itch Ointment.—In the *Semaine médicale* (*Progrès médical*, January 29th) the formula is given as follows:

℞	Beta-naphthol	5 parts;
	Precipitated sulphur	10 "
	Styrax, Powdered pyrethrum, each	30 "
	Lard	100 "

M. To be rubbed on once a day for three days, during which time the patient is to wear flannel underclothing.

A Tooth Soap.—The *Journal de médecine de Paris* for February 6th credits Frohmann with the following formula:

℞	Thymol	25 parts;
	Extract of rhatany	100 "
	Warm glycerin	600 "
	Calcined magnesia	50 "
	Borax	400 "
	Oil of peppermint	100 "
	Medicinal soap...enough to make	3,000 "

Dissolve the thymol and extract of rhatany in the warm glycerin and add the other ingredients, stirring constantly.

Prescriptions for Aphthous Stomatitis.—The *Gazette hebdomadaire de médecine et de chirurgie* for February 6th gives the following formulæ:

1.	℞	Borax	4 parts;
		Tincture of myrrh	8 "
		Syrup of mulberries	60 "
M.			
2.	℞	Borax	4 parts;
		Tincture of benzoin	2 "
		Distilled water	10 "
		Syrup	20 "
M.			
3.	℞	Sodium phosphate	10 parts;
		Orange-flower water	25 "
		Honey of roses	50 "
M.			
4.	℞	Salicylic acid	2 parts;
		Alcohol	10 "
		Glycerin	20 "
M.			

Any one of these collutories may be applied five or six times a day. In grave cases the following may be employed internally:

℞	Potassium chlorate	1 part;
	Distilled water	90 parts;
	Raspberry syrup	10 "

M. A teaspoonful every two hours.

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NEW YORK, SATURDAY, MARCH 5, 1898.

A PHYSICIAN'S NOBLE ACT.

We presume it is a risky thing to say a good word for Captain Dreyfus in Paris just now. All the more honor, then, to Dr. Lutaud, who, in the *Journal de médecine de Paris* for January 23d, makes substantially the following statement over his own signature: On running through the act of accusation read by the commandant before the first court-martial, which condemned the captain in 1895, Dr. Lutaud finds the following statement: "Dreyfus was a gambler, a debauchee, etc.; he had for his mistress Madame Dida, who was reputed to be giving money to her lovers." Madame Dida, says Dr. Lutaud, was the highly interesting patient who was assassinated in 1890 by a pseudo-Russian of the name of Vladimirof.

From 1885, the time of the onset of her disease, up to the time of her death, the woman in question was Dr. Lutaud's patient, and under the circumstances he thinks he is not unwarrantably violating professional confidence in making a public statement of her case. Most decidedly he is not, we say, but rather doing a generous deed.

It seems that in 1883 Madame Dida acquired the morphine habit, following her husband's example. Her morphinomania took on an acute form in May, 1885, and her family took her to Dr. Lutaud for treatment. After several attempts to cure her, he sent her to a small watering place in the Pyrenees, and then to the attractive winter station of St. Raphael, as much to get her away from the Parisian throng as to be able to watch her closely. She was much better at the beginning of the year 1886, when the mistake was made of substituting cocaine for the morphine. The patient was able to procure cocaine without Dr. Lutaud's knowledge, abused the drug, and was taken with the acute delirium of cocainomania. She had to be sent back to Paris immediately and immured in Dr. Goujon's sanitarium, where Dr. Lutaud had the satisfaction of securing the sudden cessation of the use of the drug, of which he is an advocate.

Madame Dida was set free in the course of a few weeks, cured of her morphinomania, but still very excitable. Dr. Lutaud advised her father to have her watched narrowly. At the close of the year 1886 she again showed signs of mental derangement, attributable, Dr. Lutaud thinks, to a return to morphine. Her father told the doctor that his daughter had the appearance of running after a young officer, and that sort of conduct, in view of her education and breeding, could have been only a morbid symptom. Dr. Lutaud made the following note at the time: "A few days ago I received a call from a young officer who advised me to watch my poor patient; this officer had noticed the advances she had made to him and perceived that he was dealing with a sick person; he declined to take advantage of them; I found his conduct entirely honorable [*tout à fait chevaleresque*]."

That young officer was Captain Dreyfus. Poor Madame Dida was never cured; she underwent numerous courses of treatment, and finally was assassinated by Vladimirof, who had ill-used her while she was an inmate of Dr. Keller's establishment. Dr. Lutaud was cited as a witness before the Versailles assizes, together with Dr. Molet and many others. Dreyfus also was cited, and the president of the court complimented him on his very worthy conduct toward Madame Dida.

Such are the facts, says Dr. Lutaud; it is necessary to reestablish them, not only because they have been falsely presented, but because it is important that the memory of Madame Dida, who left children, should not remain tarnished. "If I am to be accused of belonging to the syndicate," says Dr. Lutaud, "I can only affirm that Madame Dida never was Dreyfus's mistress, and he never received money from her." The statement advanced by the commandant in the act of accusation, he continues, is, therefore, inaccurate, and it is very grievous for the Dida family that it should be recalled before the public; but the reporter can not be blamed, he adds, for he did not know that the document was going to be published.

A GLOOMY VIEW OF MEDICINE IN CANADA.

No doubt our Canadian brethren have their troubles, but it is to be hoped they are overdrawn in a letter published in the February number of the *Canadian Medical Review*. The writer, Dr. P. Palmer Burrows, of Lindsay, says that he took his medical degree at McGill University in 1866 and is now an old practitioner, one who has had "perhaps an average opportunity of seeing things as they are." He begins by protesting against free schools of high grade, saying that they raise men from the carpenter's bench and the plow into professions already overcrowded. Is it not far better, he asks, to export more cheese and butter and seek a wider market for agricultural implements of Canadian make than to send out of the country the scholars that the schools and colleges are "belching forth, who are driven away and are a total loss, yielding no return whatever?" Go where you will in the neighboring republic, he says, and you will find Canadian teachers and Canadian doctors.

Dr. Burrows then arraigns the medical council. He declares that it is doing nothing in the interest of the profession. It professes, he says, to make examinations more difficult, but this is only a pretense, and the *personnel* of the board is not so high as it was formerly. He points to the fact that medical men are required in New Brunswick, Nova Scotia, the Northwest, and British Columbia, but he denies that any advance is really being made in interprovincial registration or anything actually being done to open the doors and enlarge the field to graduates in medicine, so as to lessen the congestion "here"—meaning by "here," we suppose, the Provinces of Ontario and Quebec. He declares that the provincial examining boards are "arrant frauds." "We all know," he says, "that a few men get together and form a board to prevent trespassing on their preserves and to fill their individual pockets with fees from the new-comers. They have not colleges in which to prepare students, but they collect toll." "Our colleges, too," he continues, "are soliciting in every questionable and unquestionable manner, by circular and otherwise, for what? Sordid gain and that only, and the weakness of our medical council is, as Dr. Sangster says, college control."

Dr. Burrows next turns his attention to the proprietary medicines and to the quacks. He would have a law passed to the effect that every bottle of proprietary medicine should have on the outside wrapper the names and quantities of the ingredients. "I take it," he says, "that this town is no exception; here we have an army of itinerant quacks selling 'orange flower,' 'viva viva,' 'preventives,' 'female syrups,' medicine to prevent conception and to relieve the unfortunate, rheumatism cures, etc. *Omne genus!* is there no way to stop such species of highway robbery? If so, let us have it. Surely there is enough of such deception and fraud practised by the regular profession. In this town a little girl can not venture into a doctor's office (I do not mean all) without the offensive suggestion that she has womb disease, and I believe that abortion is commonly practised." This, Dr. Burrows declares, is the result of filling the profession with "a low grade of gentlemen."

In conclusion, he calls on the medical council to stop its wrangling and, for one session at least, do something in the interest of those it is supposed to represent; he calls on the medical associations to come down to practical work and discuss live issues; "and, above all," he adds, "let our profession seek to uphold its honor and dignity and retain the respect of the public, which is surely and sadly declining."

It is evident that our brethren in Canada have much to contend with, but we repeat our expression of hope that the picture drawn by Dr. Burrows is in some features more startling than the real state of things calls for. If it is not, the physicians of the Dominion ought to agitate the matter until some relief is obtained.

MINOR PARAGRAPHS.

PICRIC-ACID POISONING.

Apropos of the recent advocacy of the use of picric acid in the treatment of burns, it is well to call attention to two cases of poisoning with the drug reported at a recent meeting of the Paris Surgical Society by Walther (*Gazette hebdomadaire de médecine et de chirurgie*, January 27th). They occurred in two children, one eleven and the other four years old, under the care of Latouche, of Autun. On the first application of compresses wet with picric-acid solution, there was great pain for about half an hour, and then the pain disappeared. Five days later, on the second dressing, the local condition was good, but the pains recurred, and a ten-per-cent. picric-acid ointment was substituted for the solution. An amount of the ointment sufficient to contain three hundred grains of the acid was used on each child. There was severe smarting, and at the end of twenty-four hours vomiting set in and lasted an entire day, with colic, diarrhœa, an intense yellow coloration of the skin, somnolence, prostration, and scanty, dark-colored urine. A second application of the ointment was made, and the vomiting reappeared, to subside only on the removal of the dressing. Ten gentlemen discussed the matter, and most of them had observed cases of poisoning more or less severe from the treatment of burns with picric acid.

AN ATTEMPT TO FORCE "OSTEOPATHY" UPON THE PEOPLE OF THE STATE OF NEW YORK.

Elsewhere in this issue we print the text of a bill that was introduced into the Assembly on February 17th, "regulating and legalizing the practice of osteopathy in the State of New York." After this we should not be surprised at a bill "regulating and legalizing" witchcraft. The sublimity of assurance is reached in the fifth section of the bill when it says: "The system, method, or science of treating diseases of the human body commonly known as 'osteopathy' is hereby declared not to be the practice of medicine within the meaning of chapter six hundred and sixty-one of the laws of eighteen hundred and ninety-three, . . . and is not subject to the provisions of said chapter or to the laws amendatory thereof." The author of such a declaration must, like Byron, "doubt if doubting be to doubt." It is inconceivable that such a bill should pass the legislature.

A SEQUESTRUM IN A MAN'S URETHRA.

Grosglik (*Centralblatt für die Krankheiten der Harn- und Sexual-Organen*, 1897, No. 12; *Gazette hebdomadaire de médecine et de chirurgie*, February 6,

1898) relates the case of a man, twenty-six years old, who one day, after coitus, was seized with a violent pain in the urethra. On the following day the penis and scrotum were swollen and the pain persisted. The swelling yielded to local baths, but a purulent discharge was set up, and the man was treated for a year and a half for gonorrhœa. Then he fell into the author's hands, and it was found that there were no gonococci in the discharge, but that there was a foreign body in the urethra at the junction of the penis with the scrotum. The extraction of it was very difficult. It proved to be a bony sequestrum half an inch long and a quarter of an inch thick. The man was the subject of chronic osteomyelitis, and the sequestrum, the author thinks, may have come either from the pubic bone or from the acetabulum, both of which were affected, and found its way first into the bladder and then into the urethra.

THE COUNTY SOCIETY AND THE BRUSH BILL.

The Medical Society of the County of New York met last Monday evening. We learn that the meeting was a large one, and that it expressed itself unanimously in favor of the Brush bill, which has for one of its chief objects the suppression of that particular form of "public profligacy," as the *Oil, Paint, and Drug Reporter* very properly calls it, manifested in the city board of health's vaccine and antitoxine business. It is fair to presume that some of the members of the various hospital medical boards that have been induced to aid the board of health in its opposition to the bill were present at the meeting. If they were, they must have recognized in Dr. Piffard's array of facts some reason for changing their views; otherwise they would neither have voted as the others did nor kept silence, for the matter is too important to be allowed to go by default.

DR. ACHILLES ROSE'S BOOK ON GREECE.

Dr. Rose's well-known enthusiasm for the Greeks, their country, and particularly their language has resulted in the production of a very interesting book.* Physicians will naturally be most interested in the concluding chapter, which treats of Greek as the international language of physicians and scholars in general, but from cover to cover there is nothing commonplace in the book; it is quite readable throughout. We congratulate Dr. Rose on the appearance of the volume in so attractive a form.

FATAL POISONING WITH MANCHESTER YELLOW.

The ammonium compound of dinitro-alpha-naphthol, a dyestuff known as Manchester yellow, or Martius's yellow, and under various other names, proved fatal in a case narrated by Jacobson (*Deutsche medicinische Wochenschrift*, 1897, No. 23; *Centralblatt für innere Medicin*, February 19, 1898). The amount ingested was about fourteen hundred grains, and death occurred in five hours. Beyond severe vomiting there were no grave symptoms, but the skin, the hair, and the mucous membranes were stained deep yellow. The post-mortem examination did not disclose the mode of death.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 1, 1898:

DISEASES.	Week ending Feb. 22.		Week ending Mar. 1.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	4	1	10	3
Scarlet fever	141	11	163	18
Cerebro-spinal meningitis	0	0	1	0
Measles	369	16	..	..
Diphtheria	173	26	165	25
Croup	2	1	17	9
Tuberculosis	178	117	225	104

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending February 26, 1898 ·

Small-pox—United States.

Griffin, Ga	To Feb. 23	2 cases.	
Butler, Ky	Feb. 8–24	1 case.	
Greenfield, Mass	Feb. 7–22	1 "	

Small-pox—Foreign.

Prague, Bohemia	Jan. 30–Feb. 7	7 cases.	
Matanzas, Cuba	Feb. 2–16		6 deaths.
Liverpool, England	Feb. 3–10	1 case.	
Gibraltar	Jan. 14–30	1 "	
Bombay, India	Jan. 11–25		2 "
Moscow, Russia	Jan. 22–29	6 cases,	1 death.
Odessa, Russia	Jan. 30–Feb. 5	9 "	1 "
St. Petersburg, Russia	Jan. 22–29	14 "	4 deaths.
Corunna, Spain	Jan. 30–Feb. 5		1 death.

Cholera—Foreign.

Bombay, India	Jan. 11–25		12 deaths.
Calcutta, India	Jan. 8–15		2 "
Madras, India	Jan. 15–21		16 "

Yellow Fever—Foreign.

Para, Brazil	Jan. 30–Feb. 12		12 deaths.
Manzanillo, Cuba	Jan. 17–31		4 "

Plague—Foreign.

Bombay, India	Jan. 11–25		1,485 deaths.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Surgery, on Tuesday evening, the 1st inst., the following papers were to be read: Parasitism in Skin Diseases, by Dr. F. A. Thornbury; and A Case of Intra-orbital Tumor, by Dr. E. E. Blaauw. Specimens were to be exhibited by Dr. H. E. Hayd and Dr. C. P. Smith.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, February 26th, Dr. J. Wiley Broome was to read a paper on A Case of Congenital Retroflexion of the Uterus Treated by Hysteropexy.

A New Mount Sinai Hospital.—It is understood that new buildings for the hospital are to be put up before long on property lately acquired, situated between Fifth and Madison Avenues and One hundredth and One hundred and first Streets.

Changes of Address.—Dr. Frank W. Kenney, from Lynn, Massachusetts, to the Denison building, Denver; Dr. Henry Spitzer, to No. 143 East Eighty-third Street, New York.

Effective Pills.—We extract the following anecdote from an interesting collection, entitled *Sammlung von Beispielen über biblische Hauptbegriffe*, by A. Rodemeyer, a work evidently intended for family use: A very respectable but poor woman having heard of a physician who was noted for his kindness, applied to him for medical assistance for her husband, who was suffering more from lack of suitable food than from any disease. The physician soon found that poverty was the chief malady, and promised to send a box of pills which he could recommend as affording certain relief. When the box arrived the directions read: Use when necessary; be patient and of good courage! It contained forty pieces of silver.

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* *Christian Greece and Living Greek.* By Dr. Achilles Rose. New York: Peri Hellados Publication Office, 1898. Pp. xiii–300.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 20 to February 26, 1898:*

Kilbourne, Henry S., Major and Surgeon, is granted leave of absence for two months, with permission to go beyond sea, to take effect on or about March 1st.

Kulp, John S., First Lieutenant and Assistant Surgeon, is ordered to accompany Companies B and H, Fourteenth Infantry, to Dyea, Alaska, and there take station.

Shannon, William C., Major and Surgeon, by direction of the President, will, upon the expiration of his present sick leave of absence, report in person to the president of the army retiring board at San Francisco for examination by the board.

Straub, Paul F., Captain and Assistant Surgeon, is ordered to accompany Companies A and G, Fourteenth Infantry, to Skagway, Alaska, and there to take station.

Wolverton, William D., Lieutenant Colonel and Deputy Surgeon General, is granted leave of absence for four months, with permission to go beyond sea, to take effect on or about March 15th.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending February 24, 1898:*

Austin, H. W., Surgeon. To rejoin station, Boston, Mass. February 21, 1898.

Magruder, G. M., Passed Assistant Surgeon. To proceed to Opelika, Ala., for special temporary duty. February 19, 1898. To proceed to Cartersville, Ga., for special duty. February 24, 1898.

Nydegger, J. A., Passed Assistant Surgeon. To rejoin station, South Atlantic Quarantine. February 18, 1898.

Norman, Seaton, Assistant Surgeon. Granted leave of absence for twelve days. February 19, 1898.

Clark, Taliafero, Assistant Surgeon. To report to medical officer in command, South Atlantic Quarantine, for duty and assignment to quarters. February 18, 1898.

Society Meetings for the Coming Week:

Monday, *March 7th:* New York Academy of Medicine (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Alban's, Vermont, Medical Association; Providence, Rhode Island, Medical Association (annual); Hartford, Connecticut, Medical Society; South Pittsburgh, Pennsylvania, Medical Society; Chicago Medical Society.

Tuesday, *March 8th:* New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); New York Obstetrical Society (private); Buffalo Academy of Medicine (Section in Medicine); Kings County, N. Y., Medical Association; Medical Societies of the Counties of Rensselaer and Ulster (quarterly), N. Y.; Newark (private) and Trenton, N. J., Medical Associations; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

Wednesday, *March 9th:* New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital; Medical Society of the County of Albany, N. Y.; Pittsfield, Massachusetts, Medical Association (private); Springfield, Massachusetts, Medical Club (private); Philadelphia County Medical Society.

Thursday, *March 10th:* Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Medical Societies of the Counties of Cayuga and Cortland (quarterly), N. Y.; South Boston, Massachusetts, Medical Club (private); Pathological Society of Philadelphia.

Friday, *March 11th:* Yorkville Medical Association, New York (private); Brooklyn Dermatological and Genito-urinary Society (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, N. Y.

Saturday, *March 12th:* Obstetrical Society of Boston (private).

Births, Marriages, and Deaths.

Married.

Bellinger—Wilcox.—In Water Proof, Louisiana, on Thursday, February 17th, Dr. P. L. Bellinger, of Jackson, Mississippi, and Miss Mary L. Wilcox.

Hanemann—Dittmann.—In New Orleans, on Tuesday, February 15th, Dr. Louis Hanemann and Miss Aimée Dittmann.

Kitchell—White.—In Abbeville, Louisiana, on Tuesday, February 22d, Mr. J. R. Kitchell and Miss Birdie White, daughter of Dr. William D. White.

Died.

Maynard.—In Dedham, Massachusetts, on Saturday, February 26th, Dr. John P. Maynard, aged seventy-two years.

Seelye.—In Montgomery, Alabama, on Wednesday, February 23d, Dr. S. D. Seelye, in the sixty-ninth year of his age.

Spalding.—In New York, on Thursday, February 24th, Mary Seaton, daughter of Dr. George A. Spalding, aged thirteen years.

White.—In Abbeville, Louisiana, on Thursday, February 24th, Dr. William D. White, in the sixty-third year of his age.

Letters to the Editor.

THE USE OF CHLORINE IN THE TREATMENT OF DIPHTHERIA.

Davenport, Iowa, *February 20, 1898.*

To the Editor of the New York Medical Journal:

Sir: Diphtheria is a self-limited disease of specific origin. If self-infection can be prevented the efforts of Nature will, unaided, effect a cure, but if the products of decomposition containing the specific poison of the disease (whether we believe this to be the Klebs-Loeffler bacillus or the ptomaines produced by it) are allowed to enter the system, the disease increases in virulence, the powers of resistance are weakened, and the victim dies. The Klebs-Loeffler bacillus may be, and often is, found where there is no constitutional disturbance, no diphtheritic deposit, or any other evidence of diphtheria; therefore, a perfectly healthy throat is immune to diphtheria; in addition to receiving the virulent Klebs-Loeffler bacillus in the respiratory passages the person must be in a condition favorable to the development of the disease.

Many remedies and methods of treatment have been advocated and used since Bretc neau, in a work published in 1826, gave an account of his experience with diphtheria. The disease had been known and described before his work appeared, but from this time dates the copious modern literature upon the subject, as well as the name by which it is now known. Different opinions as to whether it was primarily a local or a general disease led to numerous theories as to methods of treatment for the prevention and cure of diphtheria.

To quote from an article of mine published in the *Journal of the American Medical Association:* "Theoretically, a remedy, to be successful in the treatment of diphtheria, should be one which would be constitutional as well as local in effect. It should be destructive to the specific cause as found in the diphtheritic deposits, prevent decomposition of the diphtheritic membrane, and destroy or prevent the formation of the ptomaines which cause self-infection. But before treatment has been begun there may have been a greater amount of diphtheritic poison in the system than Nature, unaided, is able to destroy. The remedy must, therefore, be a constitutional as well as a local one, so that, entering the system, it may assist Nature in her efforts to destroy or neutralize the poison already there. Such a remedy would be an ideal one and should, in my opinion, meet the requirements necessary for the successful treatment of diphtheria."

Although different remedies and methods of treatment have been used, and wonderful cures reported, by enthusiasts who for a time believed that they had found a specific for the much-dreaded disease, local applications and internal medication have all failed when brought to the crucial test; virulent diphtheria has too often ended in death. Antitoxine, by some considered a specific for the disease and by others as not only comparatively useless, but dangerous, is the latest addition to the list of remedies used for the cure of diphtheria. While the records of cases treated with antitoxine by different persons vary very much as to the percentage of recoveries, yet, on the whole, it appears to have materially lessened the death-rate in diphtheria. In order to obtain good results, it must be used on the first or second day of the attack, and all agree that after the third or fourth day it is of little value. In cases of mixed infection, so common in very malignant cases, it is never of much value.

Among the remedies which have been successfully used in treating diphtheria, chlorine in solution and by inhalation has proved to be one of the most useful. Solutions of chlorine could not be made powerful enough to obtain the full effects of the remedy, and the vapor (the most effectual way of using it) could not be inhaled except in minute doses, as it excited cough and a sense of suffocation, and, if persisted in, produced spitting of blood and violent pain. Diluted so that it could be safely used, many physicians have found it more effectual in some epidemics of the disease than any other remedy, and most of them hold that if it was possible to use chlorine so as to obtain the full therapeutic effect, it might prove to be a specific for diphtheria.

As solutions of chlorine could not contain a large enough percentage of the active agent to be very effective and were merely local in their action, I became convinced some years ago that in the vapor must be found the remedy for diphtheria. After numerous experiments with different substances intended to correct or destroy the irritating and suffocating qualities of chlorine, without impairing its antiseptic properties, all of which failed when put to practical use, I at length succeeded, in January, 1893, in discovering a combination which did not lessen the antiseptic properties of chlorine and completely eradicated or corrected its irritating and suffocating qualities. Since then I have had many opportunities of testing the value of the combination clinically, and the results have justified the opinion that chlorine vapor, deprived of irritating and suffocating qualities, is as near a specific for the cure of diphtheria as it is possible for a remedy to be for that or any other disease. I have been unable to obtain full returns from all physicians who have used the remedy, but the results, so far as I have learned, in the practice of other physicians and in my own practice, show a death-rate of less than three per cent., although the remedy was used in a number of cases as a last resort after other remedies had failed and death appeared imminent. As a prophylactic, it has proved to be very efficient in numbers of cases in which persons were exposed to the disease and, as a preventive, used the inhalations several times a day. Complete immunity was established; not one who was exposed and used the remedy was attacked by diphtheria.

Being used by inhalation, the remedy has not only a local but a general effect, as the vapor enters the lungs, passes into the circulation with the oxygen, and assists Nature to destroy the systemic poison. The remedy is very simple, easy to use, and absolutely safe. No unfortunate sequelæ or harmful results follow its use. Theoretically, if chlorine gas, corrected, should prove to be a good remedy for diphtheria, it should also prove to be an effective remedy for other diseases of the respiratory organs of a microbic nature.

The remedy consists essentially of chlorine deprived of its irritating, suffocating qualities by an emollient corrective. Its action is cooling, soothing, and pleasant; the results are destruction of microbes, prevention of putrefactive changes, relief of local inflammation, and lessening of the general temperature, if there is fever.

If the remedy is made of good materials, properly combined, the results will be very satisfactory; if poor drugs are used or they are not properly combined, the results will be very disappointing. The value of the "corrective" is not so much due to the agents used as to their proper combination.

The formula of chlorine bactericide which has been so successfully used in the treatment of diphtheria and throat and lung diseases is as follows:

Solution No. 1.

℞ Solution of zinc chlorid	20 parts;
Solution of arsenic chlorid	30 "
Hydrochloric acid, pure	1 part;
Water	49 parts.

M.

Solution No. 2.

℞ Solution chlorinated soda, standardized to 2.6 per cent. available chlorine	70 parts;
Corrective	30 "

M.

The corrective consists of menthol, camphor, eucalyptol, and salicylate of methyl dissolved in alcohol and water.

Directions: Five teaspoonfuls of No. 1 and one teaspoonful of No. 2 are put into the inhaler and inhaled four or five minutes at a time, once an hour, for diphtheria and pneumonia, and once every two or three hours for other diseases. For diphtheria and pneumonia one teaspoonful of No. 2 is added every four hours; every twelve hours the inhaler is emptied and refilled. For severe cases of diphtheria or pneumonia the remedy should be used day and night until there is well-marked improvement, after which it is not necessary to use it at night. The inhaler should be slightly warmed before using. For diphtheria other medication may be used, but is not needed.

It is the opinion of all physicians who have used it in their practice that chlorine bactericide will not cure every case of diphtheria, but that no other remedy will cure so large a percentage of cases.

P. M. BRACELIN, M. D.

Book Notices.

The Psychology of Suggestion. A Research into the Subconscious Nature of Man and Society. By BORIS SIDIS, M. A., Ph. D., Associate in Psychology at the Pathological Institute of the New York State Hospitals. With an Introduction by Professor WILLIAM JAMES, of Harvard University. New York: D. Appleton and Company, 1898. Pp. x–386. [Price, $1.75.]

WHEN the pathological Institute of the New York State Hospitals was being organized, its director, Dr. Van Gieson, very wisely said that the one hope of arriving at a solution of the intricate problems with which he had to deal lay in approaching them by many different avenues. The time had not come—and, indeed, it is doubtful if it ever will come—when the pathogenesis of disorders affecting the mind was to be explained merely by a study of the brains of those who had died insane.

Accordingly, in establishing the institute as an institute of pathology, the director associated with himself skilled workers in allied sciences, and it is along the broad lines of physiology, of chemistry, of biology, and of psychology, as well as those of the normal and pathological anatomy of the brain, that the investigation there is now being pushed forward.

The first production available to general readers is from the associate in psychology, and has to do with the important subject of suggestion. The theory of the separation of consciousness into an upper, or higher, conscious and controlling self, and a lower, subconscious and impersonal, self is generally familiar. It is the theory which most satisfactorily explains the psychology of suggestion and of suggestibility, and it is the basis of the present theme. To Dr. Sidis is due the credit of having substantially strengthened it by inference and by experiment, and of having called attention to its importance in the consideration of "sociological" problems. Viewed from the clinical aspect, and from their relations to the therapeutic uses of hypnotism, subconscious states have been diligently studied, notably by the schools of Nancy and Paris; and the classical works of Binet and Janet, founded upon the observation of hysterical patients during induced sleep, have been of great value to normal psychology and have gone far in explaining the nature of that multiform affection—hysteria. In the present volume the two selves, the waking and the subwaking, the higher and the lower, their relations to each other and their responses to suggestion, are systematically and cleverly portrayed.

The author reviews and supplements the previous study of the subconscious self as carried out in abnormal mental states, but at the same time he adduces evidence in favor of a certain degree of disaggregation of the two selves in normal individuals. For example, during induced sleep (which is an abnormal mental state), when the waking self has been pushed aside and the subject has become more or less automatic and obedient to suggestion, there is a heightened acuity of the senses. To show that the same hyperæsthesia which is an attribute of the subconscious self occurs in normal individuals who have never been hypnotized—that is, that man hears and sees and feels more than he is himself conscious of—Dr. Sidis undertook some very interesting experiments in sense-perception upon carefully chosen normal people. The experiments themselves are too elaborate to be given here, but they are very ingenious and their results are sufficiently gratifying to justify further work in this direction.

As a conclusion to the first two parts of the book—I, suggestibility, and, II, the self—the author attributes the following characteristics to the two selves: The primary self alone possesses true personality, will, and self-control; the primary self alone is a law unto itself—a person having the power to investigate his own nature, to create ideals, to strive after them, to struggle for them, and by continuous strenuous efforts of will to attain higher and higher stages of personality. Contrasted to it is the subwaking self, which is suggestible, credulous, servile, and cowardly, and which is devoid of moral sense. Its senses are acute, but its sense is *nil.* It lacks personality and individuality. It has no will, but is blown hither and thither by all sorts of incoming suggestions. It runs riot in business panics, revels in the crowd, storms in the mob, and prays in the camp meeting. It is, according to Dr. Sidis, the subconscious self which is manifested in the forms of insanity characterized by imperative conceptions, morbid impulses, illusions of memory, and hallucinations; it is in the subconscious self that is to be sought the explanation of the psychology of the mob.

The third part of the book, dealing with society, relates how aggregations of subconscious and abnormally suggestible selves, inflammable crowds, have left their stamp on history in the crusades, in the persecution of witches, in financial crazes, and in emotional religious revivals.

Since Professor James, in his introduction, says that he is now convinced of all of Dr. Sidis's positions, the reviewer can not be blamed if he places himself by the side of so eminent an authority on psychological matters. Dr. Sidis writes with an energy born of enthusiasm which sometimes carries him too far in his generalizations. We shall not find fault with him so long as this is confined to purely scientific propositions, but we can not refrain from making a protest when he permits himself to refer to a man so highly esteemed for his consistent moderation and singleness of purpose as Mr. D. L. Moody as "stricken with the plague" and "raving on religion," and a regret that he had not studied the records of penal institutions or those of the lunacy commission before standing sponsor for the statement that "religious revivalism is a social bane, far more dangerous to the life of society than drunkenness."

Yet, when all possible exceptions are taken, the book remains as one of great merit and power. It places before the public, in a way which can be read by any one, a subject which is of vital importance from many points of view. To educators, to physicians, and to social economists a knowledge of what is known concerning the dual self and suggestibility, either in the individual or in the masses, is indispensable for the proper fulfillment of their tasks, and we know of no book which can better make these things plain than *The Psychology of Suggestion.*

BOOKS, ETC., RECEIVED.

Aids to Aseptic Technique. By A. D. Whiting, M. D., Assistant Surgeon to the German Hospital, Philadelphia. Philadelphia: J. B. Lippincott Company, 1898. Pp. 8 to 154. [Price, $1.]

Formulaire des médicaments nouveaux. Par H. Bocquillon-Limousin, Membre des Sociétés de pharmacie et de thérapeutique, etc. Avec une introduction par Henri Huchard, Membre de l'Académie de médecine, etc. 9e édition, revue, corrigée et augmentée. Paris: J.-B. Baillière et fils, 1898. Pp. viii–9 to 320.

Handbuch der Therapie innerer Krankheiten in sieben Bänden. Herausgegeben von Dr. F. Penzoldt, Professor in Erlangen, und Dr. R. Stintzing, Professor in Jena. Zweite theilweise umgearbeitete Auflage. Siebente und achte Lieferung. Mit 27 Abbildungen im Text. Jena: Gustav Fischer, 1898. Pp. 625 to 700.

Sinnesorgane. Zweite Abtheilung. 1. Das äussere Ohr. Von Professor Dr. G. Schwalbe, in Strassburg. Mit 35 theilweise farbigen Abbildungen im Text. 2. Mittelohr und Labyrinth. Von Professor Dr. F. Siebenmann, in Basel. Mit 66 theilweise farbigen Abbildungen im Text. Handbuch der Anatomie des Menschen. Herausgegeben von Professor Dr. Karl von Bardeleben. Fünfter Band. Zweite Abtheilung. Jena: Gustav Fischer, 1898. Pp. 113 to 324.

Ueber die Funktionelle Prüfung des Menschlichen Gehörorgans. Gesammelte Abhandlungen und Vorträge. Von Dr. Friedrich Bezold, Professor der Ohrenheilkunde in München. Mit 2 lithographischen Tafeln und Abbildungen im Texte. Wiesbaden: J. F. Bergmann, 1898. Pp. ix–240.

Das Hörvermögen der Taubstummen. Mit besonderer Berücksichtigung der Helmholtz'schen Theorie, des Sitzes der Erkrankung und des Taubstummen-unterrichts. Für Aerzte und Taubstummen-lehrer. Von Dr. Friedrich Bezold, Professor der Ohrenheilkunde an der Universität München. Der Ertrag dieser Schrift ist für das Central-Taubstummen-institut in München bestimmt. Wiesbaden: J. F. Bergmann, 1898. Pp. viii–156.

Atlas der Syphilis und syphilisähnlichen Hautkrankheiten für Studirende und Aerzte. Von Dr. med. Martin Chotzen, Spezialarzt für Hautkrankheiten in Breslau. Heft V. Heft VI. Hamburg und Leipzig: Leopold Voss, 1897. Pp. 55 to 77.

Transactions of the American Microscopical Society. Twentieth Annual Meeting, held in Toledo, Ohio, August 5, 6, and 7, 1897.

Thirteenth Annual Report of the Adirondack Cottage Sanitarium. Saranac Lake, N. Y. November, 1897.

The Formation of a National Association or Society for the Study of Epilepsy and the Care and Treatment of Epileptics. By William P. Spratling, M. D., of Sonyea, N. Y.

Rational Etherization—A Statistical Study. By Walter Brooks Brouner, M. D. [Reprinted from the *Medical Record.*]

Rupture of the Plantaris. By William O. McDonald, M. D. [Reprinted from the *Surgical Era.*]

The Antitoxine Treatment of Tuberculosis. By Charles Denison, M. D., of Denver. [Reprinted from the *Journal of the American Medical Association.*]

The Asheville Plateau in the Mountains of Western North Carolina. By S. Westray Battle, M. D., of Asheville, N. C. [Reprinted from the *Medical Record.*]

The Coroner's Inquest a Mediæval Relic. By Samuel W. Abbott, M. D., of Boston. [Reprinted from the *Philadelphia Medical Journal.*]

Notes on the Non-surgical Treatment of Boils, Carbuncles, and Felons. By L. Duncan Bulkley, M. D. [Reprinted from the *British Medical Journal.*]

The Jew in Medicine. By Julius Ullman, M. D., of Buffalo. [Reprinted from the *Buffalo Medical Journal.*]

Difficulties in Determining the Causes of Coma. By J. T. Eskridge, M. D., of Denver. [Reprinted from the *Annual Report of the Colorado State Medical Society.*]

Notes on Household Disinfection by Formaldehyde. By Wyatt Johnston, M. D., of Montreal. [Reprinted from the *British Medical Journal.*]

Office Gynæcology. By Thomas B. Eastman, M. D., of Indianapolis. [Reprinted from the *Indiana Medical Journal.*]

The Use of the Obstetric Forceps, and the Rules Regulating its Application. By P. Michinard, M. D., of New Orleans. [Reprinted from the *New Orleans Medical and Surgical Journal.*]

Nachträge. Von Dr. Friedrich Bezold, Professor der Ohrenheilkunde an der Universität München. [Sonderabdruck aus der *Zeitschrift für Ohrenheilkunde.*]

Miscellany.

The New York Academy of Medicine.—At a stated meeting of the Section in Laryngology and Rhinology, on Thursday, March 3d, the order for the evening was as follows: Memorial Address on the late Dr. Joseph O'Dwyer, by Dr. William P. Northrup; Intubation in Diphtheria, by Dr. William K. Simpson: Intubation for Chronic Stenosis, by Dr. D. Bryson Delavan; and Intubation for Acute Stenosis, by Dr. Charles H. Knight.

At the next meeting of the Section in Genito-urinary Diseases, on Tuesday evening, the 8th inst., the following papers will be read: A Further History of the Case of Hypertrophied Prostate Operated on by Bottini's Method, by Dr. L. Weber; and Syphilis of the Nose and Throat, by Dr. F. H. Bosworth, which will be discussed by Dr. J. Wright, Dr. L. B. Bangs, Dr. J. A. Fordyce, Dr. E. Fuller, Dr. C. W. Allen, Dr. C. A. Ransome, and others. Dr. G. K. Swinburne will present a case of syphilis; and new instruments and specimens will be exhibited.

The Unification of State Requirements.—An important contribution to the study of this subject, to which we lately alluded, was made nearly a year ago at the seventh annual meeting, in Philadelphia, of the National Confederation of State Medical Examining and Licensing Boards, in the address by the president, Dr. William Warren Potter, of Buffalo, a member of the New York State board. In the course of his address, which was published in the *Buffalo Medical Journal* for July, 1897, Dr. Potter said: There are at this moment two questions pertaining to State control of medical practice that seem to tower above all others in the minds of many physicians, which demand our most careful attention and challenge our deliberate judgment. The two are, however, so inseparable that in reality they may be considered as integral parts of one subject and discussed together. I refer to (*a*) minimum standards of requirements to enter upon the study of, acquire a diploma in, and obtain a State license for the practice of medicine; and (*b*) to the interstate indorsement or recognition of licenses so that, under prescribed rules, a licensee of one State may be permitted to practise in any other State in which he may seek a temporary or permanent residence.

It goes without saying that an exchange of these official courtesies between the States "is a consummation most devoutly to be wished" by every friend of State control in medicine. It is one of the principal objects that this confederation is laboring to accomplish. It is at the same time one of the most difficult problems thrust upon us for solution. No one can deny the fact that it is pleasant to contemplate a time—I trust in the near future—when we may have a national registration bureau where every legally qualified reputable physician may be recorded, and when all physicians whose names appear on this register and whose licenses are properly indorsed by the registrar, may pass from one State to another in the practice of their profession and in the enjoyment of all the privileges thereto appertaining.

But how is this to be established with celerity and with justice to all concerned? The idealogues, who are chiefly interested in the agitation of the question of reciprocity of licensure, assert that unless an interstate exchange is arranged, and that speedily, the whole system of State control in medicine will go to the wall. Whether this is given out in the nature of a threat or a prediction I know not, but there are indications that lead me to suspect the former. These men I believe are, for the most part, specialists who spend the vacation months at summer resorts, watering-places, or comfortable farms that their plethoric purses have secured in States more or less remote from their homes. They expect to make a snug sum from consultations and office patients during the vacation season, but do not relish the idea of being compelled to "undergo the nuisance of examinations," as they characterize it, in the States they have chosen for their holiday practice.

They are frequently men of influence who seek to prejudice their medical friends against the system, by pointing out what they are pleased to term the injustice of applying the State laws in their cases, and then proceed to air their grievances in the columns of the medical journals as a court of last resort. While I have no doubt that the denial of reciprocity now and then works hardship to deserving men who perforce must change their residences, but can ill afford to spare the time and money to take a new examination, I yet fail to see wherein the class of men first above referred to and who prate the loudest about it, are deserving of special sympathy. They can well afford to submit to an examination in the States where they pass a profitable and easy summer; moreover, I am unable to discover any injustice in compelling them to comply with existing laws. Shall a State require of its own citizens a compliance with its practice laws and at the same time grant to the well-to-do summer specialist exemption from their operation? As the State laws, for the most part, forbid discrimination against the inhabitants of each, there is both a moral and a legal bar to such exemptions. Let us, however, calmly examine the question with a view to arrive, if possible, at an intelligent and just solution of the problem.

The only equitable basis upon which reciprocity can be established that appears both feasible and practicable is that of equality of standards for admission to the study and practice of medicine. This implies an equalization of the preliminary requirements of medical students and a uniformity of applying the tests; a uniform period of collegiate training, including uniformity of methods of teaching; and, finally, an absolute similarity in the methods of conducting State examinations and granting licenses. A minimum standard of preliminary qualifications is important to agree upon. This ought to be done in a uniform manner by all the States for the sake of the good name of our profession, even if there were no other cogent reasons demanding it. American medicine should not be disgraced any longer by illiterate physicians; hence, illiterate students ought not to be admitted to our medical schools. If we can not agree upon any other question we ought to demand this much as a united profession.

What, then, shall be the minimum limit of education below which a student of medicine shall not be accepted? No more important question awaits answer, but it is one on which, I am sorry to say, there is much diversity of opinion. If a man's mind has not already been disciplined to the extent of acquiring a good English education before he takes up the study of medicine, it presents a sorry foundation upon which to ingraft a knowledge of such a multiform science and art. It is far more important, in my view, to agree upon a reasonably conservative standard of minimum requirements than it is to insist upon extending the terms of medical teaching to four years; since it is better to teach three years of medicine to a well-disciplined mind than to demand four years' medical training of an illiterate student. It is to be hoped that this cardinal principle can be definitely settled to the satisfaction of all the States at an early day.

But let us pass to the next topic—namely, uniform periods of collegiate training. Here, fortunately, there is less diversity of opinion, thanks to the good work of the Association of American Colleges. Under the stimulating influence of the American Academy of Medicine, well seconded as I believe by this confederation, we find a public sentiment fast settling to the conclusion that four years is quite short time enough in which to acquire the proper training and knowledge to fit one for the doctorate degree. It must be remembered that it is required nowadays of the undergraduate to pursue courses in anatomical, physiological, chemical, biological, pathological, and bacteriological laboratories, and to undergo training in medical, surgical, and obstetric clinics; add to this the necessary didactic and recitative courses besides training in special techniques—microscopy, ophthalmoscopy, laryngoscopy, and the like—with all these, besides much other information that must be acquired, and who shall say that four years is too long a time to devote to college work? It would be interesting in this relation to trace the progress that has been made in the last quarter of a century in the various departments of medicine, but they are as familiar to you as to me. You know how the complexity of the present age with its rapid transit and instantaneous methods of communication has correspondingly increased assaults by the enemies of health that, too, are multiplying with such marvelous rapidity. To deal successfully with this complexity requires a mind more deeply and broadly cultivated; preparations for receiving and utilizing medical instruction must be increased and lengthened; as our civilization develops our immunity from disease lessens, hence our vigilance and efficiency must be greater, our period of preparation longer, and our training increased in length, depth, and breadth. It is, therefore, with pleasure that we observe and heartily approve the good work of the Association of American Medical Colleges that is arranging the curricula in such a manner as best will be adapted to the environment of the present day. In this relation it would also appear essential that methods of teaching should be reduced to a degree of uniformity that heretofore has not been attained. With a universal establishment of four years' courses in American medical colleges, it will become appropriate for them to grade their curricula to as near a common level as may be consistent with surrounding conditions. Methods of teaching in all the laboratory departments could easily be conducted on a scale of similarity that would make them practically uniform in all the colleges. Then it would matter little where the student received his doctorate degree, as all colleges would be on or near at par.

The third condition to be standardized is one that immediately concerns this confederation, and it becomes us to deal with it in a most thoroughgoing manner. The first step toward equalizing methods of applying the separate examination for license in the several States, it seems to me, is to bring the examiners together on the subject. If they can be made to agree upon questions concerning their all-important function, then we have gone a long way toward establishing uniform methods. If, however, they differ in opinion as to the application of the principle in the several States, the prospect for speedy adjustment presents a more discouraging view. The first point that offers itself is so plain that I am sure no one will attempt to dispute it. The foundation principle of a separate examination for license to practise is that it shall be applied to all with absolute impartiality; there must be no exceptions to the rule, no exemptions. While it is true that a law on this subject can not be made retroactive and that all legal practitioners at the date of its passage must continue to be so recognized, yet all others must be examined; and so the work must continue from year to year. Another inflexible rule that ought to prevail is that a diploma from a registered school should be demanded as a passport to the State examination. The logical conclusion is that a State examination is supplemental and consecutive to that of the schools, and that it should be refused in all cases where applicants are not holders of diplomas legally obtained from registered and recognized colleges. If this rule were scrupulously enforced it would deprive medical-college faculties of grounds for any further opposition to State control. If, on the other hand, any of the State examining boards are permitted to examine undergraduates for license, it enables them to set up standards of their own—a function antagonistic to the underlying principle of State control and, I fear, subversive to the best interests of reform in medical education. When the duties of medical examiners are reduced to the mere question of determining the qualifications of such individuals as legally constituted schools shall turn over to them with M. D. degrees, they will have served the whole purpose for which they have been created. It is understood, of course, that there must be a uniform system of recognizing and registering the medical schools in the several States.

With the foregoing principle once settled the minor details of standardizing State medical examinations for license could be more easily arranged. A uniform system of propounding and marking questions becomes desirable. For instance, if it could be agreed that ten questions in each department or topic should be asked and that each answer should have a possible value of ten points; and, further, that the total possibilities of the examination should be fixed at one hundred points, maximum, and seventy-five points, minimum, in each topic, we could easily approach uniformity in this part of our work. The only remaining important question would be as to the valuation of the answers. This necessarily will always vary a little in degree, since the personal equation of the examiner enters somewhat largely into its outcome. It is a well-known fact that some examiners are inclined to a high, others to a medium, and still others to a low valuation; but with experience and an interchange of opinion on the subject this factor would soon be reduced to an exiguity that would render it comparatively unimportant.

These, then, are the essential steps toward reciprocity; these are the obstacles to be overcome before it can be accomplished. The remedies lie in legislative enactments, and these, speaking generally, are of slow development. Nevertheless, with a healthy public opinion once aroused on the subject, legislative bodies will soon take heed and adopt adequate measures to overcome defects. The newer States are likely to fall into the front line sooner than the older ones that already have imperfect laws. Public opinion moves faster, and I had almost said in a sounder fashion, as we travel toward the Occident. This, in some respects, is no doubt true. Montana, for instance, stands at the forefront in all of its requirements for State license. Minnesota, too, has been a pioneer in the movement for advanced standards and has one of the best laws. Moreover, we may expect those States east or west, north or south, that as yet have no laws relating to medical practice, taking heed of the necessities arising under present conditions and profiting by the experience of those States that have preceded them in relation to State licensure, to enact laws that will meet all the conditions of the present day and which will satisfy the most idealogistic views.

At present, twenty-seven States demand separate examination for license to practise medicine. In fifteen of these a legally obtained and possessed diploma is the first condition imposed; without it a candidate can not be admitted to the examination. It only remains for this latter group, by statutory enactments, to bring their preliminary requirements to a common level and then for their several examining boards to agree upon uniformity of methods, when, lo! the question of reciprocity is solved. A license granted by one of these States will then be valid in all others of this class, upon proving identity, character, and the payment of whatever fee may be imposed. With reciprocity once accomplished between these States, the others, one by one, will soon afterward establish themselves on the reciprocity basis in self-defense, if for no other or better reason.

Those who most loudly and persistently demand interstate indorsement aim their criticisms at the examining boards, holding them responsible for all their woes, whereas, as a matter of fact, the examiners have nothing whatever to do with the question. They are simply agents of the States to administer the laws as they find them, and can not change the practice in regard to reciprocal interchange of registration. The statutes in every instance with which I am familiar merely permit the acceptance and registration of licenses issued by other States, where the standards are at least equal in all respects to those of the State issuing the license. This means, if it has any significance whatever, that in all preliminary requirements, in collegiate training and in State examinations, one and all, there must be an equality and a uniformity of standards before licenses can be accepted for registration in a reciprocal manner.

The precise language of the New York statute on this subject is as follows:

> Applicants examined and licensed by other State examining boards registered by the regents as maintaining standards not lower than those provided by this article . . . may, without further examination, on payment of ten dollars to the regents, and on submitting such evidence as they may require, receive from them an indorsement of their licenses or diplomas conferring all rights and privileges of a regent's license issued after examination.

In an amendment to the practice law passed March 21, 1896, this principle was reaffirmed in the following terms:

> New York medical schools and New York medical students shall not be discriminated against by the registration of any medical school out of the State, whose minimum graduation standard is less than that fixed by statute for New York medical schools.

As many other States have enacted statutes fashioned after that of New York, containing this particular proviso, and as still other States hold to the same provision in effect, it is easy to understand how powerless the examiners are in the premises. These demands of the restless and migratory doctors must be taken to the State legislative halls and there made known, if relief is expected. Meanwhile, the members of this confederation may assist in bringing the problem to more speedy solution by acquainting their legislatures with the difficulties to be overcome and by urgently recommending the adoption of such amendments to existing laws as will meet and remove the present defects.

My object in discussing this subject in detail is to place the examiners right before the country in regard to it and to divert further criticism against the delay of reciprocity into the proper channel.

A Proposed National Society for the Study of Epilepsy and the Care and Treatment of Epileptics.—The medical superintendent of the Craig Colony, Dr. William P. Spratling, proposes to form such a society, and he indicates the scope of its work as follows:

1. The scientific study of epilepsy.
2. The rational treatment of the disease.
3. The best methods of caring for dependent epileptics, including
   a. The construction of proper homes based upon a study of the epileptic's needs as to classification and environment.
   b. The study of the utilization of the epileptic's labor, for economic, scientific, and ethical reasons.
   c. The study of the best educational methods to be employed, including manual, industrial, intellectual, and moral forms and forces.

In such a society science, philanthropy, and practical charity may well combine for a common purpose.

With a view to ascertaining, in a measure, the desirability of the organization of such a society, thirty-five circular letters have been sent to physicians and others who might be interested in the matter. To these, thirty replies have been received, as follows: In favor of, twenty-three; neutral, three; opposed, four.

Persons who are disposed to make suggestions on the subject are asked to communicate with Dr. Spratling, Sonyea, N. Y.

The Brush Bill and the New York City Board of Health.—The *Philadelphia Medical Journal* for February 26th says: "We have not at hand a copy of this bill, but we feel that the daily papers erred when they stated that its object was to *abolish* the production of vaccine and antitoxines; certainly that was not what was recommended in the report of the committee referred to. In that report, which was unanimously adopted by the society, it was proposed to repeal the section which permits the health board to sell vaccine lymph and diphtheria antitoxine *if the supply shall exceed the amount required for the purposes of the department.*

"It seems to us most unfortunate that the main point at issue—*i. e.*, the amendment of the charter so that the jurisdiction of the board of health shall be confined *to matters of health only*—has been obscured by tacking on to the bill a clause, the effect of which is to do away with the compulsory reporting of cases of tuberculosis. This is to be deplored, because it effectually prevents that broad, united, intelligent, and conscientious treatment of the subject which it deserves, and leaves the fate of the proposed measure too much to mere partisanship. For example, there are many who are sincere in their belief that the present large powers of the health department need curtailment, yet they are equally positive that Dr. E. L. Trudeau is right when he says about this matter: 'To tie the hands of the department by leaving tuberculosis from the list of the diseases with which it is authorized to deal would be a step toward a return to barbarism, which an intelligent and progressive community should not permit.'

"There is certainly much to be said regarding this side issue, both for and against the attitude of the health board. The statistics published by the health department appear to show that the death-rate from tuberculous diseases has been very materially reduced since the sanitary authorities have taken a decided stand regarding the control of tuberculosis; yet it can not be denied that the widespread opposition in the profession to the compulsory notification edict must seriously interfere with its proper working. That the campaign of education is bearing good fruit, and that this opposition is lessening, would seem to be borne out by the statement of the health department, that whereas in 1894 only four thousand two hundred and sixty-three cases of tuberculosis were reported, in 1896 the board was notified of eight thousand three hundred and thirty-four cases. Dr. Abraham Jacobi, who originally directed attention to the need for some statutory limitation of the powers of the health board, has withdrawn from the committee of the County Medical Society which prepared the Brush bill, and has entered a protest against the bill, in which he says: 'As to tuberculosis, it is idle to talk of it not being infectious, and some one should have authority to deal with it.' In the present condition of public opinion, it certainly seems to be the part of wisdom to refrain from legislation on this very delicate subject.

"Regarding the other feature of the bill, there is also much difference of opinion, though it seems to us with much less reason. Some of the physicians connected with the health department have been busily engaged, so we are informed, in stirring up an opposition to the bill, representing that its passage would mean an end to further laboratory and other scientific work of the health department, because such work is made possible by the income derived from the sale of antitoxine. This is a cogent argument, and necessarily carries great weight with the many physicians who fully appreciate the most excellent scientific work that has been done by the board of health. But it is not probable that such would be the result. We have heard it said by a physician in New York city, who claimed to be reliably informed, that the manufacture of antitoxine cost $60,000 annually, and that as only half of this amount came from the antitoxine fund, the balance of $30,000 required to produce these wares must be taken from the other departments. More than that, he said that it had been estimated that $10,000 would cover the cost of producing all the antitoxines and tuberculin manufactured by the department. If these statements are correct, we fail to see just where the 'profit' comes in.

"It is this commercial aspect of the work of the health board that involves such an important principle. We do not dispute the right or the wisdom of the board to manufacture antitoxine and similar products for their own use among the poor, but it is certainly no part of the functions of such a board to go into a general manufacturing business, or to enter into competition with private enterprise. It is this usurpation of improper functions and the arrogation to itself of powers not rightfully belonging to it that is responsible, in our opinion, for that lack of confidence and that feeling of suspicion that have manifested themselves in connection with the question of the control of tuberculosis. It will not do now to argue that the antitoxines manufactured by the health department are the purest known, and that their vaccine represents all the latest knowledge in this line of research. The underlying principle remains the same, and the board of health of New York city has long been guilty of gross injustice to the public at large in thus engaging in distinctly commercial enterprises. Its jurisdiction should end when it has manufactured the products necessary for its own work among the poor and needy, and when it has properly supervised and certified to the purity of products manufactured by others and placed in the New York market. There will be no difficulty in securing, at proper prices, and of acceptable purity and strength, all these products if private enterprise is not interfered with in this wholly unjustifiable manner."

The "Osteopathy" Bill before the Assembly of the State of New York.—The following is the text of an act introduced by Mr. Raplee, regulating and legalizing the practice of osteopathy in the State of New York, and fixing penalties for the violation of the provisions of the act:

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Any person having a diploma or certificate of qualification, regularly issued by any duly incorporated school of osteopathy, who shall have practised the system, method, or science of treating diseases of the human body commonly known as osteopathy, for the period of one year or more, prior to the first day of February, eighteen hundred and ninety-eight, in the State of New York, and who shall file such diploma or certificate for record, together with his affidavit, as hereinafter provided; and any person not having practised osteopathy in this State as above provided, but having a diploma or certificate of qualification, regularly issued by any incorporated and regularly conducted school of osteopathy, and who shall have been in personal attendance, as a student in such school for at least four terms of not less than five months each, before receiving such diploma or certificate, shall be authorized to treat diseases of the human body, according to the osteopathic method, after having filed such diploma or certificate for record with the clerk of the county in which his principal place of business is located, or is about to be located, together with his affidavit that the diploma or certificate is genuine; that he is the person to whom it was originally issued, and stating his name in full, his place of residence, the date and place of his birth, the number and date of his diploma or certificate, the name of the institution issuing the same and its location or post-office address; that no money was paid for such diploma or certificate except the regular tuition and fees paid by all graduates at such school; that no fraud, misrepresentation, or mistake in any material regard was employed by any one, or occurred in order that such diploma or certificate might be conferred; that he practised osteopathy in the State of New York for at least one year prior to the first day of February, eighteen hundred and ninety-eight, or that he actually attended the school issuing such diploma or certificate, as a student, for the full period of four terms of five months each, before the said diploma or certificate was issued to him.

SEC. 2. The county clerk receiving such affidavit and diploma or certificate shall file the affidavit as a permanent record in his office, and shall record such diploma or certificate in a book to be provided by him for that purpose, and shall indorse on such diploma or certificate the date of its record and a reference to the liber and page where the same is recorded, and shall keep an index to the diplomas and certificates so recorded and to the affidavits so filed. After record, the diploma or certificate shall be returned to the owner thereof. For all his services in each case the county clerk shall receive a fee of one dollar.

SEC. 3. Any person who shall practise, or pretend to practise or attempt to use the system, method, or science of osteopathy in treating diseases of the human body without having complied with the provisions of this act, shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be fined in a sum not less than fifty dollars nor more than two hundred dollars for each offense, and in default of the payment of such fine, may be imprisoned in the county jail not exceeding six months.

SEC. 4. Any board of health, in any city or county, where an offense is committed under this act, may bring an action in the name of such board of health for the collection of the penalties imposed by this act, and the expenses incurred by such board in such prosecution, including necessary counsel fees, may be retained by such board out of the penalties so collected, and the residue, if any, shall be paid into the county treasury.

SEC. 5. The system, method, or science of treating diseases of the human body, commonly known as "osteopathy," is hereby declared not to be the practice of medicine, within the meaning of chapter six hundred and sixty-one of the laws of eighteen hundred and ninety-three, entitled "An act in relation to the public health, constituting chapter twenty-five of the general laws," and is not subject to the provisions of said chapter or to the laws amendatory thereof.

Sec. 6. All acts and parts of acts inconsistent with this act are hereby repealed.

Sec. 7. This act shall take effect immediately.

The Dangers following the Use of Iodized Preparations in Tuberculous Subjects.—Among the symptoms of iodism, remarks a writer in the February number of *La Clinique,* there are some that are localized in the lungs, and manifest themselves by cough with mucoserous sputa and by pains in the pleura. An abundant transudation of serosity has also been observed in the lungs of dogs which had been subjected to subcutaneous injections of iodine and an iodide in solution, according to Zeissl. These facts have led to the supposition that in certain cases of pulmonary tuberculosis the administration of the iodides may cause in the lungs a congestion and a process of softening which is very injurious to the patient.

Vitvitsky, of Kharkhow, observed a case which was very conclusive in this respect. The patient was a woman twenty years old who suffered from a cough with a prickling sensation in the throat and pain on deglutition; at the apices there were suspicious stethoscopic signs. However, the patient had no fever and her general health was excellent. A laryngoscopic examination revealed an intense congestion of the larynx and ulcerations of the vocal cords. As there was cause to suspect a syphilitic origin for this affection, ammonium iodide was prescribed in amounts of thirty grains a day. After eight days of this treatment the patient's condition was manifestly aggravated; the cough had increased, the temperature had become febrile in character, râles and a bronchial souffle were heard in the apices, Koch's bacilli were found in the sputa, which before had been free from them, and galloping phthisis set in which terminated very soon in death.

The Use of Agar-agar Jellies in Dermatological Therapeutics.—At a recent meeting of the Société de thérapeutique, a report of which appears in the *Gazette hebdomadaire de médecine et de chirurgie* for February 3d, M. Paul Gallois stated that he had made use of gelose, or agar-agar, in the treatment of skin diseases in order to keep in place on the skin such drugs as were not easily incorporated in lard or vaseline. The following formula is habitually employed by him, particularly in the treatment of erysipelas:

℞ Water	3 ounces;
Gelose	15 grains;
Corrosive sublimate, Tartaric acid, each	1.5 grain.

This jelly is easily applied to the affected parts and if it is spread on in a thin layer it dries rather quickly; the applications may be renewed several times a day without difficulty. One great advantage of this procedure is its cleanliness; it does not cause retraction or symptoms similar to those seen with the use of the gelatin jellies.

This corrosive-sublimate jelly is also used by M. Gallois to lubricate urethral bougies. The mucilaginous coating is certainly antiseptic, and does not dissolve the material of which the bougies are made. An important detail in this procedure is that the instrument must be used immediately after it has been coated, for if the jelly becomes dry it will adhere slightly to the meatus, and may lead the physician to think there is a stricture. The addition of some glycerin will, no doubt, avoid this inconvenience.

The jelly containing corrosive sublimate is not the only one that can be employed. M. Gallois has quite often made jellies containing zinc oxide, which have been very efficient, especially in the non-oozing forms of eczema. Substances like picric acid are not adapted to the formation of jelly with agar-agar, because they precipitate it in flakes.

In the application of this jelly it is not necessary to heat it, as is the case with gelatin paste. The layer formed by the agar-agar jelly on the skin possesses the property of resisting friction rather decidedly, although it is very easily removed by simple bathing.

A Collective Investigation on the Action of Cold in Pneumonia.—We print the following by Dr. Mays's request:

"My three collective reports already published on local cold applications in the treatment of acute pneumonia give a record of two hundred and ninety-nine cases so treated, with ten deaths, or a mortality rate of 3.35 per cent.

"Being desirous of pursuing this investigation still further, I take the liberty of asking those who have tested this measure to kindly give me the result of their experience. Full credit will be given to each correspondent in the report which I hope to publish soon. Blanks for the report of cases will be cheerfully furnished by me, with postage for return of same on application.

"Thomas J. Mays, M. D.,
"No. 1829 Spruce Street, Philadelphia."

Low Mortality for Philadelphia.—The report of the board of health was submitted to Director Riter on February 16th. The report shows that during 1897 the mortality was the lowest for thirteen years, being 18.72 to a thousand, based on an estimate of 1,214,256 population. The total number of deaths from all causes was 22,735, a decrease of 1,247 from that of the previous year. The following were the most common causes of death: Pneumonia, 2,723 deaths; tuberculosis, 2,388 deaths; diphtheria, 1,474 deaths (an increase of 369 over those in 1896); typhoid fever, 401 deaths (rate, 13.39); scarlet fever, 282 deaths.

The death-rate of diphtheria for the year 1897 was 27.28. The total number of births during the year was 25,591, a decrease of 162 over those in the year 1896, and equivalent to a birth rate of 24.37 to a thousand.

The number of marriages reported during the year was 7,693, the marriage rate being 12.67 to a thousand.

The deaths of children under five years of age were 7,605, or 33.45 per cent. of the total mortality.

Typhoid Fever decreasing in Philadelphia.—Last week there was a notable decrease in the number of new cases of typhoid fever over the period of the week before. The returns show 156 new cases and 17 deaths, against 185 new cases and 21 deaths during the week previous.

The twenty-ninth ward remains the banner ward, leading off with four deaths and fourteen new cases. The total number of deaths in the city during the week was 491, a decrease of 15 from the previous week, and a decrease of 39 from the same period of last year.

The principal causes of death were: Inflammation of the lungs, 66; cancer, 25; heart disease, 25; old age, 24; scarlet fever, 17; typhoid fever, 17; nephritis, 27; inflammation of the brain, 17; casualties, 11; convulsions, 10, and uræmia, 15. The following is the report of new cases of contagious and infectious diseases: Typhoid fever, 156; diphtheria, 82; scarlet fever, 57; membranous croup, 7.

The Widal Reaction in the Newborn.—Dr. Alfred Stengel recently presented an interesting case in the clinical amphitheatre of the University of Pennsylvania. The patient was in the ninth month of pregnancy and the second week of an attack of typhoid fever.

Her temperature had been quite high during the attack, which had run a typical course and given the Widal reaction. The child was born with a temperature of 102°, which gradually subsided within a period of three days. The Widal reaction was sought for, but not secured. Two days after the birth of the child the mother's temperature had a sudden exacerbation, but gradually subsided, and both mother and child are now doing well.

A Remedy for Baby-farming.—According to a writer in the *British Medical Journal* for February 12th, there is a wide scope for philanthropic enterprise in assisting to check the abuses and lessening the evils of baby-farming. He states that he is glad the subject has been broached, and thinks that it can not but appeal strongly to those who are both desirous and willing to help their fallen sisters. The current number of the *Fortnightly Review*, he says, contains an article on this subject by a lady, who explains in a most practical way how such help could be administered. She describes her scheme as "a remedy for baby-farming," pointing out that with the concerted action of philanthropic women, carrying on their work in conjunction with lying-in hospitals, parish doctors, and midwives, the necessity for baby farms would soon tend to cease. "The most important part of the scheme," she writes, "is the creation of an organization consisting of a central committee of ladies and members in every town and district, whose services, knowledge, and counsel would be available to the inexperienced, ignorant young mother, anxious to work for her infant, and utterly at sea as to any safe refuge where it can be placed." Organized upon such a basis, no doubt, continues the writer, the scheme could not fail to be immensely useful. Moreover, all the official duties of inspection and supervision would be carried out by women, thus rendering the work of the association as little as possible objectionable to those whom it was designed to benefit. Furthermore, the association would provide financial assistance to those mothers who were unable, from their very limited means, to pay the whole cost of the child's maintenance. In short, the whole scheme would have for its main object the humane provision for illegitimate children who are now still imperfectly protected by the infant-life-protection act. It is quite possible, then, to conceive under these circumstances that its operation would in time lead to the cessation of the baby-farming system, the horrors of which, even under the new act, are never likely to be entirely suppressed. The only exception he adds, which it seems possible might be taken to a scheme of this nature is that it might be urged that to make such excellent provision for the care and maintenance of illegitimate children would be equivalent to making the penalty of this form of immorality too light. But an objection of this kind could not seriously be considered. Reflection would show that an act of immorality is not one of premeditation, but an impulse of the moment.

Prehistoric Dentistry.—In an article entitled The Mysterious City of Honduras, in the January number of the *Century* (*Dental Review*, February, 1898), Mr. George Byron Gordon gives the following account of recent discoveries at Copan:

"No regular burying place has yet been found at Copan, but a number of isolated tombs have been explored. The location of these was strange and unexpected—beneath the pavements of courtyards and under the chambers of houses. They consist of small chambers of very excellent masonry, roofed sometimes by means of the horizontal arch and sometimes by means of slabs of stone resting on top of the vertical walls, In these tombs one, and sometimes two, interments had been made. The bodies had been laid at full length upon the floor. The cerements had long since molded away, and the skeletons themselves were in a crumbling condition, and gave little knowledge of the physical characteristics of the people; but one fact of surpassing interest came to light concerning their private lives—namely, the custom of adorning the front teeth with gems inlaid in the enamel and by filling. Although not all of the sets of teeth found had been treated in this way, there are enough to show that the practice was general, at least among the upper classes, for all the tombs opened, from their associations with prominent houses, seem to have belonged to people of rank and fortune. The stone used in the inlaying was a bright green jadeite. A circular cavity about one sixteenth of an inch in diameter was drilled in the enamel of each of the two front teeth of the upper row and inlaid with a little disk of jadeite, cut to a perfect fit and secured by means of a bright red cement."

The Micrococcus Tetragenus in Angina.—At a recent meeting of the Société de biologie, a report of which appears in the *Indépendance médicale* for February 2d, M. Apert said that in several cases of angina a direct examination and the cultures had revealed the presence of the *Micrococcus tetragenus*, either alone or associated with other microbes. In a case of a peculiar form of angina with fine white spots on a red field, which had been characterized by M. Dieulafoy as sandy angina, the *Micrococcus tetragenus* had been found in a pure state. In other cases it had been found associated with different microbes, and then the angina had presented nothing peculiar. Sometimes the *Micrococcus tetragenus* was virulent (killing a mouse in twenty-four hours), and it was reasonable to suppose it had contributed to cause the angina; at other times it was not virulent, and this had led to the supposition that it existed as an offensive inhabitant in certain normal throats.

In all the cases of angina observed, those in which the *Micrococcus tetragenus* was the cause were always accompanied by manifestations of disease in the pleura, ordinarily preceding the angina.

The Puerperium complicated by Typhoid Fever.—The *Philadelphia Medical Journal* for February 19th publishes a report of a recent meeting of the Pathological Society of Philadelphia, at which Dr. William E. Parke presented a paper on this subject. He referred to the fact that whenever fever had followed the delivery of a woman, the first thought was that the patient had been infected, and that treatment should be directed to the disinfection of the parturient canal. The symptoms of typhoid fever, he said, during the first week bore a singular resemblance to those of sapræmia or septicæmia. The intoxication due to the absorption of toxines, whether they were from the typhoid bacillus or from wound-infection, presented no distinguishing features. He considered blood-examination in such cases to be of value. Dr. Parke cited a case of typhoid fever which had occurred during the puerperium, in which the diagnosis had not been made until the spots had appeared upon the abdomen, on the seventeenth day. Before this the patient had been subjected to intra-uterine irrigation, curetting, and uterine iodoform-gauze packing. The fact, however, of the late occurrence of the elevation of temperature, the absence of odor from the lochial discharges, and the absence of decomposing material in the uterus upon digital examination, would contraindicate curetting, for the reason that at this period, if the symptoms were of septic origin, the germs were already in the blood and local manipulation would not reach them. Dr. Boyd reported a case in which the patient had some fever when labor had begun. She had a high temperature immediately after her delivery, which had run a course similar to that of septic infection, except that the lochia had been healthy, and there had been no uterine tenderness. Later on the spots had appeared upon the abdomen.

Physical Curiosities.—A writer in the *Lancet* for February 2d gives the following account of two persons who are performing with Barnum and Bailey at the Olympia:

"One of these entertainers, whose name is Delno Fritz, is a sword swallower, and asserts that he can swallow longer swords than have ever been swallowed before. We for our part never want to see any one swallow more rigid metal. To those who know the surface markings of the abdomen and the situation of the stomach it is little short of appalling to see this man pass a sword down his gullet until the hilt impinges upon his teeth and then withdraw the weapon and demonstrate by outside measurement that in the erect posture the point falls some inches below the usual line of the lower curvature of the stomach. What really happens, of course, is that Delno Fritz has learnt, consciously or unconsciously, to stretch the somewhat loose and elastic tissues between the lips and the cardiac orifice of the stomach, so that these tissues will lie along his blunted sword in a condition of extension, while a protruded chin assists in the prolongation of the pharynx. It should be added that the solidity of the weapon with which the feat is performed is beyond question. A second person in whom medical men must be interested is one Young Hermann, who can expand and contract his chest and abdomen at will to really remarkable dimensions. He is able to make a *bona fide* difference of sixteen inches in his chest measurements, and accordingly to snap chains and straps fastened across his thorax by the steadily extending pressure he is able to effect upon them. The alterations which he produces in his abdominal outlines are no less striking. By swallowing air and then effecting pressure upon it by contractions of the rectus abdominis muscle he can rapidly pass from the appearance of extreme corpulency to the appearance of horrible emaciation, the skin of the abdomen appearing in the latter case to lie against the spinal column. His extraordinary power of swallowing and inhaling air enables him to shift the apex beat of the heart many inches and otherwise to displace his viscera. The power of swallowing air is not exceedingly rare, but the extent to which Young Hermann possesses it is unexampled in our experience. It is probable that Joseph Clark, the celebrated posture-master of the seventeenth century, possessed the secret of this trick in addition to his unwholesome knack of dislocating many of his joints at will. It may be remembered that Clark's favorite joke was to go to a tailor to be measured with his right shoulder, say, much higher than the left, to return to fit the suit on with the protuberance on the other side, and finally to call at the shop and reject the clothes indignantly, having this time assumed a central hump. Young Hermann might amuse himself in a similarly ill-natured way if the inclination took him."

Malaria and Mosquitoes.—It has been suggested many times, says a writer in *Modern Medicine* (*China Medical Missionary Journal* for September to December, 1897), that flies, mosquitoes, and other insects are active agents in the dissemination of such diseases as cholera, yellow fever, and malarial disease. The recent studies by Dr. Bignani, of Italy, have brought to light some interesting facts which confirm this view. It appears from these experiments that malarial parasites are not carried by the wind to the extent generally supposed. If the mosquito acts in the capacity of a vaccinator, it is readily seen why the malarial parasite adheres so closely to given localities; for the mosquito avoids being carried off by the winds by hiding in thick grass, shrubs, and trees whenever the wind blows; it is also well known to be nocturnal in its habits, and this explains the greater danger of contracting malarial disease by exposure to the night air. The mosquito also flies near the ground and never ascends to any great altitude in its flight. The dwellers on the Roman Campagna, which is a well-known malarial region, elevate their houses upon high pedestals. The writer states that he once saw a cottage perched upon the top of an ancient mammoth tombstone on the Appian Way near Rome. In this cottage dwelt an Italian peasant with his wife and little ones, who required the services of a ladder nearly twenty feet in length to reach their melancholy dwelling.

It has long been known, the writer says, that persons dwelling in malarious regions are less apt to take malarial fever if they protect themselves from the bites of mosquitoes.

A missionary, he continues, living in one of the most unwholesome regions of Africa, where malarial fever is extremely frequent and malignant in character, in a letter not long since, expressed the view that malarial fever was sometimes the result of the stings or bites of ants.

Mycosis of the Pharynx.—In the *Journal des praticiens* for September 4, 1897, we find the following summary of a *Thèse de Paris* by Dr. C. A. Wilson Prévost, now of New York:

This disease, which is rather rare, is characterized by the appearance of small white patches on the tonsils, the base of the tongue, the epiglottis, and sometimes the back wall of the pharynx; these small white patches have the form of mushrooms, of dodder, or of nail heads.

Most of the authors who have treated of the subject have found the *Leptothrix buccalis* in the white patches, but few of them infer, from its constant presence, that the leptothrix is the cause of the disease (Colin, Cornil).

According to Dr. Wilson Prévost, the *Leptothrix buccalis* is not the only one that we find, but also the *Oidium albicans*, the micro-organism of nigrities linguæ, a sarcina, and the *Aspergillus fumigatus;* so that, in the present state of science, it will not do to assert that the leptothrix is the parasite which produces mycosis of the pharynx.

The ætiology of the disease is yet obscure, and different authors (Krauss, Garel) have insisted upon the adjuvant causes of the development of the mycosis—namely, a catarrhal condition of the pharynx, dyspepsia, dental caries, acidity of the saliva, and chronic recurrent amygdalitis. Colin mentions the cases of a pregnant woman having in her throat quite a number of white patches which disappeared spontaneously after the confinement. But, as a rule, the ætiological cause is unknown and the disease is discovered by chance.

According to several authors, mycosis of the pharynx is seen oftenest in women and children. Guinier thinks that lymphatism is a good condition for the development of the mycosis, but, on the contrary, it is observed that most of the patients belong to the wealthy class of people, among whom hygiene is at its highest. The disease is not directly transmissible and is not contagious.

Clinically speaking, this disease may be seated on the different tonsils, on the base of the tongue, sometimes on every part of the pharynx, and manifests itself by two kinds of manifestations; objective signs and subjective symptoms; sometimes the symptomatology is entirely objective. In some cases there is a sensation of dryness and of irritation in the fauces; in some, uneasiness or pain during deglutition, a sensation of tickling, of a string around the neck, of a foreign body in the throat, accompanied with cough and scraping sensation.

Thomas has observed cases with fever and loss of appetite.

The fœtid breath, which is rare, was observed by Gautier. The tone of the voice may be weakened and become hoarse. Much more important are the objective signs, of which we borrow the excellent description of Dr. C. A. Wilson Prévost. The mycotic points have the form of millet grains, of a bunch of mushrooms, recalling the aspect of dodder, or of yellow stains simulating diphtheria stains; the touch gives the sensation of projection, and, in reality, the mycotic points project a few millimetres above the mucous membrane. They are plane on the surface or very irregular, fimbriate, of a yellowish white, and are detached with much difficulty, because of the penetration of the microbes into the substance of the mucous membrane; plucking them away sometimes causes a little oozing of blood. Thomas gives, in the description of these points, two forms: the diffuse form and a circumscribed form. In the diffuse form the tongue is totally covered with a brilliant mass like milk, which is frequently more or less dense. The movements of the tongue and the sensation of taste are not lost, and the general health is not affected. In the circumscribed form, brilliant points appear, and the mucous membrane around them keeps its pink color. One of the principal characters of these mycotic "nails" is that they are tenacious, and when they are taken off with the forceps they are reproduced rapidly at the same place, sometimes in twenty-four hours.

Sometimes these nail-like filaments become confluent and form a membrane. In other instances they are corneous and pointed, and gathered in the form of a bunch, like the grains of figs, or in the form of muscular stains. The lesion is seated, in order of frequency, on the tonsils, at the base of the tongue, on the epiglottis, on the posterior and lateral walls of the pharynx, between the pillars, and on the nasopharyngeal vault. Vanderpool says that the seat of predilection is the left tonsil. The course of the disease is slow, and it may disappear spontaneously in the course of time.

It is generally easy to distinguish it from lacunar amygdalitis, because in that disease the points are soft and friable, half liquid, and not adherent. Sometimes plugs of mucus and epithelium exist in the lacunæ of the tonsils, but they are of a yellowish color, are always isolated, and are easily taken off. A slight pressure or a fit of coughing is sufficient to dislodge them.

Lacunar cysts of the tonsils form flat and transparent plates, yellowish, isolated, and habitually occupying the top of the tonsils.

Calcareous concretions are larger and give out a stony sound under the probe.

The caseous concretions of granular pharyngitis are softer and less adherent.

The Brown-Kelly hyperkeratosis, in which we also note the presence of leptothrix, is different from this mycosis, in the fact that the excrescences are rough, very adherent, and of characteristic form. Dr. Wilson Prévost does not admit this variety.

The prognosis is favorable, in spite of resistance to the treatment, which is to be active. After cleansing the throat with hot gargles and with a one-per-cent. solution of resorcin, we either perform extirpation with Duplay's forceps (Castex), or galvanic or thermal cauterization, followed with touches of a one-per-cent. solution of chloride of zinc or lactic acid (Hemenway), sodium hyposulphite (Webster), chromic acid (Wagnier), tannic acid (Semon), bichloride of mercury, two parts to a thousand (Jacobson), or perchloride of iron (Colin), iodized chloride of zinc (Labit), according to the following formula:

℞ Zinc chloride melted in plates..	675	grains;
Water...	375	"
Potassium iodide...	1,050	"
Iodine...	63	"
M.		

Simultaneously, gargles with resorcin or chlorate of potassium may be used. The abstract is signed "M. D."

Influenza is reported as prevalent in various parts of Europe. The *Klinische-therapeutische Wochenschrift* for February 6th states that in Vlissingen more than a thousand of the inhabitants have been attacked within a short time, and the disease is epidemic on the Dutch coast and often of a malignant character.

The Late Dr. John G. Truax.—The medical board of the Harlem Hospital has passed the following:

Whereas we, the members of the medical board of the Harlem Hospital, have learned with deep regret of the death of our late associate, Dr. John G. Truax,

Resolved, That we record our recognition of the value of his services in the establishment, due largely to his untiring energy, of the Harlem Hospital, the organization of which was his work.

Resolved, That we hereby desire to express our appreciation of his manliness and decision of character, his high sense of professional honor, and the zeal and ability shown by him in the practice of the profession which he loved.

Resolved, That a copy of these resolutions be sent for publication to the *Medical Record,* to the *New York Medical Journal,* to the *Journal of the American Medical Association,* and to the widow of Dr. Truax.

[Signed.] J. T. Joseph Bird, M. D., *Secretary.*

Original Communications.

THE PITUITARY GLAND AS A FACTOR IN ACROMEGALY AND GIANTISM.

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The function of the pituitary has long been a standing puzzle to physiologists, and, curiously enough, the first ray of light upon the question came from pathology, when Souza-Leite announced in 1890 that this body was markedly enlarged in most cases of the disease named by himself acromegaly. Hitherto the gland had been almost unanimously regarded as a purely vestigial structure of most interesting and puzzling origin and history, but of no present value whatever to the organism.

The history of our knowledge of this disease is almost as interesting as the disease itself. It was formally introduced to the professional world for the first time in 1886, in the now classic essay of Pierre Marie, then an assistant to Charcot at the Salpêtrière, in these words: "There exists a disease which we propose to call 'acromegaly,' characterized by hypertrophy of the hands and feet." This essay reported two cases of his own and seven other cases which he judged to be of the same nature collected from medical literature as far back as a case of Saucerotte Noel in 1766. His description of the condition was so vivid and so complete that all the accumulation of cases since has been able to add but little to it, except in calling attention to the fact that the hypertrophies might occur in certain other situations which were not specially described in the first case.

The next contribution to the literature of the subject was the conjoint essay of Marie and Souza-Leite in 1890. A number of new cases were reported, and the literature of the past had been ransacked to such effect that the authors were able to tabulate no less than thirty-eight cases. It was in this essay that the discovery was first announced of the enlargement of the pituitary body in these cases. Few accurate measurements, in the nature of the case, could very well be given, but it was stated that this gland was found to be swollen to the size of a hazelnut, in one case to the size of a hen's egg, and in another even to the size of a small apple. Very shortly after this, Brigidi reported a case in which this body was found to weigh fourteen grammes, the normal weight being half a gramme, and Hensot another in which it was said to be of double the normal size.

A year later this essay was translated by the New Sydenham Society, and to the translation notes of nine more cases were appended, bringing the number up to forty-seven, which probably includes nearly every case on record till January, 1891. At this point the deluge began, and cases commenced to pour in from every quarter, so that Collins, of New York, in a critical digest in 1893, was enabled to bring the number of cases up to eighty-three. The wave, however, ran a curiously even course. In 1893 there were twenty-two new cases reported; in 1894, seventeen; in 1895 the flood-tide was apparently reached with thirty-seven new cases; in 1896 it fell to twenty-two cases, and in 1897 to the same number. This makes a total to date of two hundred and three cases, with eleven cases of giantism, which undoubtedly belong in this category, by various authors; and four cases (hitherto unreported) by the writer, bring the number up to two hundred and eighteen. This, of course, does not purport to be an absolutely complete list of all cases reported. But inasmuch as several of these cases have been reported two or three times by different authorities or observers, and the literature of the subject has been pretty carefully watched for five years past, I think I should be safe in saying that the total number of cases recorded little if at all exceeds two hundred and fifty. This for the twelve years that the disease has been recognized would give us an average of only twenty cases a year. But we must deduct from this at least twenty cases which have been gathered up from the medical literature of the century preceding Marie's original essay, or have been added from the skeletons of giants contained in museums, and at least an equal number of cases reported as acromegaly in which there are serious grounds for doubt as to their real nature. And when we further consider that this disease is one that needs no microscope or even close physical examination for its discovery, but may literally be recognized across the street, and that the reported cases range in geographical distribution from Cuba to Egypt, and from Argentina to Norway, so powerfully have the interest and imagination of the profession been stimulated by its extraordinary character, we must, I think, conclude that the disease is not at all so common as it was at one time held probable to be.

About half the cases listed above have been studied in the original reports, and all but about thirty of the remainder in abstracts giving the leading symptoms of interest, so that I think it fair to state that whatever conclusions may be presented in this essay are based upon a fairly adequate study of some two thirds of the total number of cases of the disease reported. The picture of the disease from this moderately extensive group of cases is a striking and for the most part singularly uniform one. There are very few diseases all cases of which appear to present such a strong family likeness. The most constant symptom, and the one which presents itself in practically every one of the undisputed cases, is the enlargement of the lower jaw. This is a genuine enlargement and not a mere thickening. The length of the body of the jaw from angle to symphysis is distinctly increased in the great majority of cases in which measurements have been made, although this is frequently accompanied by and in some cases almost overshadowed or even hidden by a considerable increase in the vertical depth of both the ramus and alveolar process.

The next most striking and almost equally constant symptom is the great enlargement of the hands, which was probably the first symptom to attract attention to the disease. It is usually the first to attract the patient's notice on account of the increase in the size of the gloves which he wears, but is neither so constant nor so absolutely characteristic as the enlargement of the jaw. The change in this case is also not merely in thickness, but in many cases in length as well, although the length being determined and fixed by the rigid bones, the growth impulse, if we might use such an expression, finds an easier vent in the lateral direction through the medium of the soft tissues, and hence the "sausage-shaped" or "bolster-shaped" fingers and "spade-shaped" hands which are so characteristic of this disease. From a careful study of a number of cases and the measurement of several skeletons, we wish most emphatically to protest against the statement very frequently made in describing this disease that the changes in the hands are solely those in the transverse diameter. For the reason above given, these changes are greater in proportion than is any increase in length, but in nearly all typical cases an actual increase in length also will be found to exist. In fact, upon examining the ages of the cases reported, it will be found that the proportion between the enlargement in the transverse and longitudinal directions is largely dependent upon the age at which the disease makes its appearance and to the extent to which the growth lines of the bones have entirely disappeared. Roughly speaking, in cases over forty the increase will be almost entirely in breadth and thickness of both hands and fingers, while in cases below twenty-five the increase in length almost keeps pace with that in width.

Next after the enlargement of the hands follows a similar overgrowth of the feet, and this is perhaps even more apt to attract the attention of the patient on account of the rigid coverings worn on this part of the body, and because in the lower classes of life gloves are but seldom worn. It is, however, neither so constant nor so characteristic as either of the foregoing symptoms, and is very apt to be confined to one or the other side of the member, and especially to the great toe. These three are far the most frequent as well as constant and characteristic marks of the disease, but they are almost invariably accompanied by enlargement in other situations, which, however, will be found to distribute themselves differently in each individual case.

Probably the next most frequent symptom, although this does not occur in more than about seventy per cent. of all cases, is a similar enlargement of the facial and alveolar portion of the upper jaw (maxillary arch). This is less frequently noticed and reported than the other symptoms, for the simple reason that its enlargement is so much less in proportion than is that of the lower jaw that it is completely overshadowed by it, and in fact in some cases appears to be, if anything, rather less than the normal size, the teeth of the lower dental arch projecting as much as half or three quarters of an inch beyond those of the upper. Upon careful measurement, however, it will very frequently be detected, although it very seldom goes to the extent of that attained by the lower jaw of leaving gaps or spaces between the teeth.

The next two symptoms must be mentioned together in order of frequency, although in the actual number of reports in which they are mentioned definitely the latter of the two would have a decided prominence for reasons which are easily explained. These two are the enlargement or projection of the superciliary ridges and the presence of kyphotic curvature in the dorsal spine. The latter symptom seldom appears until comparatively late in the progress of the disease, and in probably thirty per cent. of all cases does not appear at all, but is, of course, readily noted and very striking when it does occur. The former, however, on the other hand, is much less frequently reported for the reason that it is dwarfed by the projection given to the lower part of the face by the lower jaw, so that the skull in most of these cases becomes distinctly prognathous The possibility of these changes, however, balancing one another is one which must carefully be borne in mind, or serious mistakes will be and have been made, as in one case which we are about to report, in which the enlargement of the frontal sinuses and the consequent projection of the forehead was so great as to completely overcome the well-marked hypertrophy of the lower jaw which was present, and make the facial angle if anything slightly in excess of a right angle, thus completely wiping out the actual mandibular prognathism which was present. Upon section of the skull this projection of the ridges is found to depend upon an extraordinary enlargement of the cavities of the frontal sinuses, which in one of my cases were found to measure three quarters of an inch in their antero-posterior diameter and two inches and three eighths from side to side.

On the same level with these two symptoms should be mentioned the enlargement of the nasal arch and appendages, which in some cases becomes very striking. In many cases the malar or infraorbital arch is included in the hypertrophy; so that we may get all shades of distortions of the face from the chin to the hair line, and consequently our acromegalic "facies" will be found to vary in type as to prognathism, etc., through a much wider range than is usually believed.

After this group of changes, all of which are present in a majority of the cases, and which give the characteristic type and color to the disease, will be found a legion of minor ones, all of which, however, we think can be shown to belong to the same developmental region. These are so numerous and their proportions vary so much in individual cases that we will simply mention them in regional order from above downward. No attempt will be made to actually give the proportion of cases in which each one will be found, for the reason that the possibility of these changes not being suspected in the earlier cases, and also in the cases reported by observers who had read descriptions only of these and had possibly never seen a case before their own, they are very apt to escape attention, and, in fact, in many cases we are led to infer their presence simply from incidental remarks that are made in describing other symptoms. It is, of course, unnecessary to say that the lips, both upper and lower, sympathize and keep pace with the growth of their bony arches. In certain cases the palatal arch has been found to be distinctly thickened, and in a few cases the uvula is enlarged. In seven cases the tonsils and in six the pillars of the fauces have been reported as distinctly hypertrophied. In a few cases the ears have been reported as thickened and enlarged. But little or no change seems to have occurred either in the Eustachian tube or meatus. The tongue, however, is very frequently enlarged, and, indeed, has almost a claim to be regarded as one of the "type" symptoms. So marked is this overgrowth that it may even exceed that of the lower jaw and become uncomfortably large for the mouth cavity. Freund and one other authority have actually attempted to explain the enlargement of the lower jaw by the pressure upon its inner surface of the much-swollen tongue. Inasmuch, however, as the greater aggregation of cases has shown that the jaw symptoms occur at least twice as frequently as the tongue symptoms, this theory is no longer tenable. In not a few cases enlargement of the epiglottis or the laryngeal cartilages has been reported, and from certain changes which take place in the voice in still others it is believed that there was some overgrowth either of these organs or of the tissues surrounding the hyoid bone.

In the neck but few changes are reported, except in the size of the muscles attached to the occiput, the trapezius, and splenius; but this was only in cases where the enormous enlargement of the facial part of the cranium would appear to throw extra strain upon these muscles in maintaining the normal position of the head.

When we reach the shoulder girdle and chest the changes become comparatively numerous, although here they are so much overshadowed by the curvature of the spine and the much greater enlargement of the hands and forearms that it is hard to say in how large a proportion of the cases they have been detected when present. Hypertrophy of the clavicle, in both length and thickness, has been reported in fourteen cases; hypertrophy of the sternum in all of its diameters, particularly in the region of the manubrium, and the development of a projection at the junction of this with the gladiolus in about the same number.

The changes in the ribs are, of course, more difficult of detection, but from the almost uniformly large circumference of the acromegalic chest it would seem probable that quite a considerable degree of enlargement constantly occurs in this region, and in nearly all cases (Broca, Virchow, Arnold, Osborne, and the author) where a careful study of the skeleton has been made after death more or less increase in both length and thickness at their sternal extremity has been recorded, and in several cases well-marked uniform hypertrophy of the first rib.

The changes in the upper extremities are confined chiefly to the hands and fingers—metacarpal and digital regions. But in the cases of Pel, Dercum, and Long, not only the hand but the forearm and leg were distinctly enlarged.

Arnold reports a case where the shoulder girdle was thickened, and Berkeley one where the clavicles were enlarged. Dercum records another where forearms, legs, and chest were greatly enlarged. The scapula and pelvis were enlarged in Osborne's case. The forearms, patellæ, and clavicles in Pel's case, and the forearm and leg in Long's case were enlarged, and the bones of the leg were thickened in Pechardre's case.

In the more recently reported cases, where the possibility of all these enlargements was recognized, they figure much more frequently than they did in the earlier. In Park's case, for instance (July, 1895), the inner end of the clavicle and the upper end of the breastbone were enormously increased. The cross ridges between the segments of the breastbone were also much more prominent than normal. The entire circumference of the chest was markedly increased, and, as the author himself says in his most able *résumé of* the characteristic cases reported to that date: "Most characteristic also is it that the sternal ends of the clavicles and of the costal cartilages should be enlarged. Sometimes the ribs are widened, and sometimes the scapulæ are enlarged. Here they seem to be but slightly affected. Similarly the vertebræ and the cartilages of the spine become involved, the latter thickening and ossifying, and causing such deformity as you see here. While the long bones of the legs are but slightly affected, except at the lowermost joint ends, there has been sufficient alteration in the internal condyle of each femur to throw the knees somewhat outward and make him seem bow-legged."

Continuing downward, we find but little change in the abdominal region except some apparent thickening of the walls. The pelvis is almost uniformly reported as normal, or simply uniformly enlarged. The upper part of the femur is generally unaffected, but the lower portion in the neighborhood of the condyle is very frequently the site of some thickening and such increase in length and slight change in the direction so as to give a tendency to knock-knee. The tibia and fibula, again, are comparatively frequently enlarged, especially at the lower extremity of the malleoli. Changes in the feet have already been alluded to. In the viscera few and inconstant changes, such as hypertrophy of the heart, fibrosis of the liver, and cystic degeneration of the kidneys, have been reported, with the exception of those embryonic outgrowths of the alimentary canal, the thyreoid and the thymus glands. The first of these appears to vary greatly in the cases in which its condition is recorded. In about ten per cent. it is more or less atrophied, and in a few cases reported as practically absent. In about thirty per cent. of the cases it is found to be enlarged, and usually with a decided tendency to cystic degeneration. But in the majority of cases (sixty per cent.) there are no changes which can be detected during life or upon naked-eye examination at the post-mortem. The condition of the thymus gland appears to be almost equally variable. In the large majority of cases no symptoms pointing to its existence can be discovered during life and no traces found at the autopsy. But Tamburini has recently reported a series of eleven autopsies in which special search was made for this gland, with the surprising result of finding it present in eight out of that number.

The constitutional and subjective symptoms of the disease are so familiar and so uniform that but the briefest *résumé* of them here is needed. Usually the first thing that attracts the patient's attention after the enlargement of the hands, feet, and jaw, is a gradual failure of strength, both mental and bodily. He becomes tired easily on slight exertion; he complains of shooting pains, particularly in the region of the vertex, and in the back and limbs. In the earlier stages, in some cases, there is a decided increase in both muscular bulk and power, but this rapidly reaches a maximum, and thereafter quickly declines. In most cases there is a distinct increase in weight all through the more active stages of the disease. Its course is an extremely variable one, but is always to be counted in years and often in decades. The shortest case terminating fatally without intercurrent disease was that of Bury, in which death occurred from general failure of the cerebral powers in a little more than three years from the appearance of the first symptoms, while a number of cases are reported in which the subjects were still living in from the twentieth to the twenty-sixth year of the disease. Its average duration would appear to be about twelve or fifteen years. In most cases the period of enlargement of the extremities and increase in weight covers about two thirds of the course of the disease, and is then followed by a period of rapid deterioration, both bodily and mental, in which headache, mild delirium deepening into stupor, not infrequently excessive thirst accompanied by polyuria, in some cases diabetes mellitus, in others excessive sweating, Cheyne-Stokes respiration, etc., are the characteristic symptoms, and the end comes in either coma or collapse. In something over fifty per cent. of all cases the period of decline is ushered in by severe and incessant headaches, particularly in the vertical region, and more or less disturbance of vision, which in typical cases results in a bilateral temporal hemianopsia, and often progresses to total blindness. In about half the cases, however, in which death has occurred some intercurrent disease, generally bronchitis, influenza, or pneumonia, has closed the scene.

Another general and quite constant symptom in this disease, which we shall see later to be of considerable interest from an ætiological standpoint, is the almost uniform occurrence of a dirty-white, waxy degeneration of the skin and its appendages. Not infrequently it will be so much thickened that abnormal folds will form, as upon the eyelids and scalp. The hair is apt to become coarse, lacking in lustre and scantier than normal, and in quite a considerable percentage of cases there is a strong tendency to the formation of those curious little taglike growths of the skin known as molluscum pendulosum, which are small fibromata in the subcutaneous tissue.

Another singular and very constant general symptom in these cases, which also presents the first and only exception to the regional law of the development of these overgrowths, is the impairment of the sexual functions, which occurs in something like sixty-five per cent. of all cases, and may even extend to the size of the external organs themselves, which, so far as I can discover, have never yet been reported as hypertrophied, although occupying a place in the characteristic median line. In fact, in many cases, and especially where the condition appears comparatively early in life, they have been reported as imperfectly developed and less than normal in size. In a considerable majority of the women menstruation becomes irregular and ultimately entirely suppressed; while in some sixty per cent. of the men the sexual appetite, undergoing in a small proportion of the instances a decided temporary increase in vigor, ultimately distinctly and rapidly declines until it finally disappears, and this, as I have said, may sometimes be accompanied by an atrophy of the penis or testicles. In fact, so striking a feature of the disease is this sexual failure, that one of the earliest theories of its causation was that of Freund, who chose this as the principal ætiological factor and declared the disease to be due to an arrest of sexual development. But inasmuch as this decline is distinctly present in only about sixty per cent. of all cases, and in the great majority of these occurs long after the establishment not merely of puberty but of conception, upon the one hand, in the female, and fertile intercourse in the male, it is now regarded as an effect and a symptom rather than a cause of the disease.

(To be continued.)

THE HOME MODIFICATION OF MILK.*

By WILLIAM L. BANER, M. D.

While it is generally agreed that percentage feeding is the most rational and scientific method of nourishing infants unfortunate enough to be deprived of their natural supply, it must be admitted that many physicians refuse to think in percentages. The mixture which they direct to be put into the nursing-bottle may be practically the same as if it had been prescribed with relation to the actual amounts of fat, sugar, and albuminoids, and the child may thrive equally well; but the fact remains that they are sailing without a compass, and are really not so well equipped for avoiding rocks and shoals and meeting in a rational manner the various and varying conditions of infant growth. Of course, the percentage idea is comparatively new, and has not as yet been so simplified as to make percentage thinking easy as applied to home mixtures. Moreover, before the Academy of Medicine last year, Dr. Rotch, who has been the foremost advocate of modified milk, distinctly discouraged home modifications in general; and yet it is by home modifications that the vast majority of bottle babies always have been fed, and always will be till we arrive at absolute Bellamyism. Dr. Rotch's present position seems to amount practically to this: Percentage thinking is the mariner's compass of infant feeding; but, no laboratory, no mariner's compass. In his book, however, he publishes a series of formulæ for home use, which will be referred to later.

To be sure, a man can not actually think in percentages if he is hampered by the doubt as to whether he is going to be able to produce his percentages with the few set mixtures which he remembers or carries in his notebook. On the other hand, comparatively few are able or willing to avail themselves of the services of the laboratories, both because of the great expense involved and of the perfectly natural objection to a patented food. I do not want to be misunderstood as criticising Messrs. Walker, Gordon, and Waterhouse for patenting whatever they may have invented. As business men, they naturally want to protect themselves in every possible way. Moreover, great credit is due them for the formulation of the percentage idea. It is, however, a very intangible thing to base a patent upon, and, besides this, I think they would have had a heartier support from the profession if they had depended on the merit of their product. While much credit is also undoubtedly due to Dr. Rotch for explaining and advocating modified milk before so many medical bodies all over the country, I must confess that I can not agree to the statement made by him, in a letter on file in the patent office, in which he says that it is of the greatest importance to physicians, and a question of many babies' lives being saved, that this patent should be granted. It seems to me that the only effect of the patent, so far as concerns the babies, will be to restrict the use of the product and to prevent the improvements which always come with competition. Any dairyman who wanted to compete in this field would of necessity have to furnish milk of exceptional purity and freshness properly guaranteed. It would be part of his necessary stock in trade, without which he would lack customers, and this simple economic fact throws more safeguards around the nursing-bottle than does the payment of royalties to certain patentees.

Percentage feeding has been criticised on the ground that in the present state of our knowledge we are not sufficiently conversant with the need for and effect of the various food elements to be able to say just what modification will suit each particular case. This is true to a certain extent, and, moreover, we never shall be able to until we make a start in that direction on a scientific basis. After a few years of percentage thinking, our stock of knowledge regarding sugars, fats, and albuminoids will have increased. Our principal need at the present time is greater simplicity in the methods of connecting percentage thinking with home mixing. There is in reality nothing complicated about the subject, and the babies whose food is mixed in the kitchen by the nurse are as much entitled to be steered by compass as are the favored few whose food comes from the laboratory.

The formulæ for home use which Dr. Rotch gives in his book are made from ten-per-cent. gravity cream and the under milk. Dr. Westcott, of the University of Pennsylvania, points out that unfortunately in calculating these formulæ the two per cent. of fat remaining in the under milk has been overlooked, causing an error in the percentages which reaches in Table 80 a variation giving nearly one third more fat than intended. This does not seem to me to be a very serious defect—not so serious as the tedious nature of the actual process involved on the part of the nurse and the absence of any key to the situation for the use of the physician except reference to the set mixtures of the text-book—an absence which conduces to the memorizing of two or three mixtures and the ignoring of a great principle.

Dr. Holt, in his excellent book, has given us a system which consists of diluting in various proportions either whole milk, eight-per-cent. cream, or twelve-per-cent. cream, with one or other of some five different percentage solutions of sugar. This method is ingenious, but after a careful study of it I have come to the conclusion that in actual practice it is burdensome. When giving directions to mother or nurse, it is intended that this method be used merely as a means of calculating the amounts of commercial milk, cream, and sugar which are to be mixed with a certain amount of water, and the calculation involved is often quite confusing.

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One of the recent contributors to this subject is Dr. Westcott, of Philadelphia. Realizing the great advantage and need of working formulæ for milk modification, Dr. Westcott has given us some in the *Archives of Pædiatrics* for January, 1898. These formulæ are of interest, but I fear are not adapted for general use, as they involve the considering of two unknown quantities in each equation, necessitating the assuming of trial values for one unknown quantity and working through. If not right, other values are assumed and worked through again, and so on. In short, they are rather a means of proving the correctness of assumed amounts than genuine working formulæ. In his equations, moreover, Dr. Westcott assumes 3.90 per cent. as the average proteid mean between whole milk and twelve-per-cent. cream. By striving for such minute exactness he loses the great advantage and simplicity which come from regarding cream as simply a superfatted milk, as is done by Holt in figuring his formulæ. Moreover, I have great doubt if there is actually any gain in accuracy. I am aware that Dr. Rotch publishes in his book a table which seems to show that there is a slight percentage of loss of proteids in cream as compared with the whole milk. The extraordinary part of this analysis is, however, that there is no corresponding proteid gain in the separated milk, which still contains four per cent. of proteids—an apparent loss of proteids somewhere. Blyth, on the other hand, claims for cream a slight increase in albuminoids over milk, from their tendency to "mechanically adhere to the fat." The probable truth seems to be that the presence of high percentages of butter fat makes the quantitative estimation of the proteids less easy. The practical fact is that it is undoubtedly better to disregard a variation amounting to so small a fraction of one per cent., as Dr. Holt does.

It seems to the writer that the great desideratum in any method for home modification is simplicity. In choosing the formula to be used for any particular case, the mind of the physician must be unhampered by any thought as to whether he is going to be able to produce just the mixture to give that formula. He must be able to decide on his percentages just exactly as if his prescription were to be filled at the laboratory. Having done his thinking in percentages, he must then have some simple method for putting his thoughts into terms of ordinary commercial articles. The following method is submitted as an effort in this direction. It is based on the use of ordinary good cow's milk, containing on the average four per cent. of fat and four per cent. of proteids, in accordance with Dr. Rotch's analysis (Analysis No. 46). Both Dr. Rotch and Dr. Holt base their modifications upon this analysis. It is also based on the fact that cream is simply a superfatted milk, containing practically the same amount of proteids as milk itself. Either of the ordinary creams as recommended by Dr. Holt in his book may be used—that is, sixteen-per-cent. gravity cream or twenty-per-cent. centrifugal cream; or, if preferred, the twelve-per-cent. gravity, as recommended by Dr. Westcott, may be used. By Dr. Westcott's method a quart of good milk is left in ice-water for six hours, after which the top six ounces will be twelve-per-cent. cream. This method, like Dr. Rotch's, has the advantage of insuring the freshness of the cream, and the emulsion is probably more perfect than at present obtains with centrifugal cream. They both have the same tedious procedure for the nurse, however, and both help to postpone that greatly-to-be-desired day when milk dealers will furnish fresh creams of known percentage. It would be easy for them to do so to-day, all that is needed being the demand.

It will be convenient to first explain this method of calculating as used with sixteen-per-cent. cream—this being the percentage in ordinary skimmed cream, and also the centrifugal percentage used in the laboratories—and then show the slight changes of equation necessary for using with other creams. If these equations sound and look complicated, they are, in reality, very simple. They are submitted merely as *working formulæ,* and without detailed explanation. The mathematically inclined will see the explanation at a glance.

Having determined upon the formula which we desire to prescribe, and upon the number of ounces of the mixture which will be needed, we first estimate the cream by the following simple procedure: Subtract the proteid percentage from the fat percentage and multiply the remainder by one twelfth the total number of ounces of the mixture. This gives the cream in ounces. Next, to estimate the milk, multiply the quantity of the mixture by the proteid percentage and divide by four. This gives the total milk and cream. Subtract from this the amount of cream, as already estimated, and the remainder will, of course, be milk. It is hardly necessary to mention the water, as it is self-evident that the entire mixture, less the milk and cream, will be water. We now come to the question as to how much dry milk sugar must be added to give the desired sugar percentage. Dr. Westcott in his formulæ arrives at it in this way: He multiplies the sum of the milk and cream by an assumed average mean percentage of the sugar in undiluted milk and cream mixtures. This mean he assumes to be 4.40 per cent. The product thus obtained he subtracts from the product obtained by multiplying the total quantity of the mixture by the desired sugar percentage, and then divides this remainder by 100. This is complicated in practice, and the mean allowed seems too high. Rotch (Analysis 47) places the sugar in good cow's milk at 4.30 per cent.; in cream, at four per cent. A formula which would represent very accurately the additional sugar needed would be this: Subtract from the desired sugar percentage seventeen sixteenths of the proteid percentage. Multiply the remainder by total quantity of mixture and divide by 100. This would be considering 4.25 per cent. as the sugar mean between milk and cream. After carefully going over the matter, however, and working out all the generally used percentages, it is found that the following more simple equation gives results which agree quite accurately with the Holt formulæ, and are practically correct: Multiply the difference between the sugar and proteid percentages by the quantity of mixture and divide by 100.

We have then a simple formula, in known terms, for each ingredient of the mixture. The following table will give a better idea of the principles involved than a verbal description:

Formulæ for determining the Amounts of Cream, Milk, Water, and Dry Milk Sugar required to make any Desired Quantity of Mixture to contain given Percentages.

Given: Quantity desired (in ounces) = Q.
Desired percentage of fat = F.
Desired percentage of sugar = S.
Desired percentage of proteids = P.

To find (in ounces):

$$\text{Cream (16 per cent.)} = \frac{Q}{12} \times (F - P).$$

$$\text{Milk} \quad . \quad . \quad . \quad = \frac{Q \times P}{4} - C.$$

$$\text{Water} \quad . \quad . \quad . \quad = Q - (C + M).$$

$$\text{Dry milk sugar} \quad . \quad = \frac{(S - P) \times Q}{100}.$$

If twenty-per-cent. centrifugal cream is used, the denominator of the cream formula will be 16 instead of 12. If twelve-per-cent. cream is used, it will be 8 instead of 12.

Examples.—Suppose we want forty ounces of a mixture to contain four per cent. of fat, seven per cent. of sugar, and two per cent. of proteids:

$$\text{Cream} = \frac{40}{12} \times 2 = 6\tfrac{2}{3} \text{ ounces.}$$

$$\text{Milk} \quad = \frac{40 \times 2}{4} - 6\tfrac{2}{3} = 13\tfrac{1}{3} \text{ ounces.}$$

$$\text{Water} = 40 - 20 = 20 \text{ ounces.}$$

$$\text{Sugar} \quad = \frac{5 \times 40}{100} = 2 \text{ ounces.}$$

The directions to the nurse would then be to dissolve two ounces of milk sugar in twenty ounces of water, add 13⅓ ounces of milk and 6⅔ ounces of cream (skimmed), and divide into as many bottles as desired. The question of adding limewater or other alkali, and the question of pasteurizing or sterilizing, would have to be considered, but do not come within the scope of this article.

As another example, suppose we want twenty-four ounces to contain four per cent. of fat, six per cent. of sugar, and 1.5 per cent. of proteids:

$$\text{Cream} \quad . \quad = \frac{24}{12} \times 2.50 = 5 \text{ ounces.}$$

$$\text{Milk} \quad . \quad = \frac{24 \times 1.50}{4} - 5 = 4 \text{ ounces.}$$

$$\text{Water} \quad . \quad = 24 - 9 = 15 \text{ ounces.}$$

$$\text{Milk sugar} = \frac{4.50 \times 24}{100} = 1.08 \text{ ounces (practically 1 ounce).}$$

These examples will serve to show the ease of the calculations. It should, of course, be remembered that very high fat with very low proteid percentages can not be made with twelve-per-cent., sixteen-per-cent., or possibly even with twenty-per-cent. cream. It can readily be seen that with sixteen-per-cent. cream it is only possible to make the fat percentage four times the proteid; with twenty-per-cent., five times, etc. This is merely mentioned as a possible contingency, it not being at all probable that any one will try unusual and impossible formulæ and blame these equations for bringing out the milk with a *minus value.* For instance, if we try to make twenty-four ounces of mixture to contain four per cent. of fat, six per cent. of sugar, and only 0.5 per cent. of proteids, we find that the sixteen-per-cent. cream necessary for the fat percentage would be seven ounces, but the milk equation shows that only three ounces of either milk or cream are allowable without overdoing the proteids.

A great advantage of these equations, it will be observed, is the ease with which odd amounts of mixture can be calculated. People have an annoying habit of asking how to make up odd numbers of ounces, and when the tables in the books give directions for making eight, twenty-four, or thirty-two ounces, it is not always easy to figure out for thirty-five ounces. For instance, a lady came to me recently with the copy of a laboratory prescription which called for fifty-five ounces of milk containing certain percentages. Her child had been doing well, and she did not want to make any change in the general character of the food, but could no longer afford to pay the twenty-one dollars per month. Without these working formulæ the calculation would have been tedious. It should also be noted that these formulæ can be used backward for calculating the percentages where the quantities of milk, cream, etc., are known, the proteid percentage being first found from the milk formula to avoid two unknown quantities.

The question of how to obtain definite percentage creams is a very important one. As is well known, the standard at present in this city is this: Cream is anything the dealer can get the customer to accept as cream, whether the fat is four or forty per cent. The very thick creams, as was pointed out by Dr. Huddleston, are old creams which have been kept packed in ice for a long time—often for ten days or two weeks—and which are thickened by bacterial action. Some customers demand such cream. A neighbor of mine, one of the medical board of the City Hospital, changed milk dealers because the cream was not thick enough. Repeated analyses showed that the fat percentage was actually unusually high in the cream to which he objected. Most of the cream in New York is at least seventy-two hours old, but there is no reason why centrifugal cream should not be delivered as fresh as milk, and it could easily be made of any desired fat percentage. In fact, some dealers are beginning to supply definite percentage creams, and a demand for them will bring many more into line. My own experience with cream from first-rate dairies has not been as unfortunate as that which Dr. Rotch related to the academy last year. Dr. Rotch advised a certain New York dealer that he wanted a constant cream for a specific purpose, and yet the fat percentage varied between ten and twenty-eight per cent. on different days. I have found the cream from good dealers to vary somewhat on different days, but not materially. Occasionally, however, there may be a fluctuation from the general average. A dairyman who makes much cream will use just about the same number of quarts of milk each day to produce a quart of cream.

A very important subject in connection with milk modification is the question of the proteids. There is a general tendency at present to cut down the total albuminoids to a very low figure, in order to avoid casein indigestion. In our efforts to attenuate the curd we must not forget that we are diluting the albumin as well as the casein, and that the proteids constitute by all odds the most important element of the milk, the very protoplasm of the human machine being formed of nitrogenous matter. The question as to whether the cereals when added to milk aid the digestion of curd is answered in the negative by Dr. Rotch. He finds in a series of test-tube experiments that a finer curd is caused by dilution with hot water than by adding cereals. A fairer test would be to compare the curds in a specimen simply diluted with those in one both diluted and with cereal added. However, experiments of this kind can prove very little, as it is by no means certain that there is a correlation between size of clot and its digestibility. The power of casein to occlude other substances is very remarkable, and it is possible that the cereal, whatever it may be, is so intimately mingled with the clot as to provide numberless points vulnerable to the digestive juices, though invisible to the eye. A lump of sugar may look larger than a piece of taffy, and yet dissolve much more quickly. In practice we certainly do find that an infant can sometimes take a heavier milk if some cereal food be added. This question is very interesting, and will well repay thorough investigation. Certainly it can not be settled conclusively with such simple test-tube experiments. The occlusive power of casein is easily shown with coloring matters. If milk be colored with vegetable carmine and acetic acid added, the color will be sought out and included by the clot, leaving the whey colorless. Of course, other substances not so easily visible are treated in the same way. It will be remembered that a year or so ago Dr. Delavan pointed out the usefulness of rennet for disguising the taste of iodide of potassium—an instance of occlusion. Certainly these facts suggest a possible field for research.

While these considerations seem to me full of interest, I do not want to lose sight of the main idea of these remarks, which is a plea for more general percentage thinking, and an attempt to furnish an easier road between it and the commercial articles in the hands of the nurse or mother.

72 WEST FORTY-FIFTH STREET.

THE PREVENTION AND TREATMENT OF GASTRO-ENTERITIS IN CHILDREN.*

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THE infectious origin of gastro-enteritis is to-day a recognized fact. Since the first ætiological researches in this direction by A. Baginsky in 1875, Hueppe's *Investigations concerning the Decomposition of Cow's Milk through Micro-organisms* in 1883, Soxhlet's device of a successful method of employing infected cow's milk in artificial infant feeding in a comparatively sterile condition in 1886, the works of Escherich, Booker, and others on the bacteria found in the alimentary canal in this disease—the finding of the actual relation between the weather and gastro-enteritis by Seibert, by comparing the daily meteorological conditions of ten years with the appearance of 8,036 cases in his dispensary class—and at last the discovery of the immigration of enteritic bacteria into the blood, the spleen, the liver, the lung, and the kidneys in most cases made by Czerny and Moser—have united themselves in forming an unbreakable chain of proofs for this assertion.

Only after the origin of an epidemic or endemic disease has been recognized can its prevention and treatment be intelligently instituted. Gastro-enteritis is no exception to this rule, although the results have not as yet come up to the expectations. Assuming that the modern regulation of infant feeding is well known in this society, I need but ask you, while listening to the following remarks, to remember that all efforts in this direction must strive to come as near to the physiological standard as possible. Among the recent attempts at improving the artificial food of infants we find expression given to views which sadly need close inspection, for the reason that they must necessarily mislead the judgment of the unprejudiced student. While, for instance, the most prominent pædiatrists of this country but ten years ago would not recognize the organic and chemical poisons of dirty milk as the cause of gastro-enteritis, and while, except by A. Jacobi, the boiling of milk was then not even recommended, we find that Crandall, in an editorial on artificial infant feeding in the *Archives of*

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* Read before the German Medical Society of the City of New York, January 3, 1898.

Pædiatrics of November, 1897, makes the statement that "the methods *adopted* in other countries compared with those *developed* here must be called crude."

If any one looking over the above-mentioned article of Ferdinand Hueppe on Milk Bacteria, in the second volume of the *Publications of the Imperial Health Office in Berlin*, 1884, finds that in his introductory History of Lactic-acid Fermentation ninety-eight scientific researches on this subject are cited, of which not one was conducted outside of Europe, and who furthermore knows that the first sterilizing apparatus for infant feeding (Soxhlet's) was brought home to America by Caillé in the fall of 1887, and that before its arrival the germ invasion of milk and its effects were unknown factors among us here, this editorial announcement that methodical artificial infant feeding was *developed* here and was only *adopted* in other countries will sound queer indeed, even though he had no knowledge of the many other valuable researches of German workers in this field.

The milk laboratories instituted by Rotch (Boston) a few years ago, in which the fat, sugar, solids, and water of cow's milk are separated by machines and then again brought together in percentages ordered by the physician, which Crandall probably had in mind when making the statement quoted, have unquestionably been developed in this country. Possibly they were originally intended for the prevention of gastro-enteritis among the children of the middle and working classes in larger cities, among whom this ailment will exclusively develop epidemically, and possibly these laboratories suffered the fate of the well-known *large hotel* built for a home for working women by the benevolent widow of a millionaire in this city, where each guest would have been obliged to pay from twelve to eighteen dollars a week for her room without meals alone, for the milk laboratory and the working-women's hotel can to-day be made use of by wealthy people only. The infants of wealthy parents do not remain in the city during warm weather, and with this the prophylactic value of these laboratories as institutions for the mass of the people crumbles to a trifling factor, for their product is so expensive that even the middle classes can not afford to use it for their children any length of time. But, in spite of its high price, the nutrient value of this food appears to me questionable. This modification of cow's milk, to my mind, oversteps the line, for in the subtilty of its composition the product surpasses human milk and the laboratory the breast of the mother. The proportions of fat, casein, albumin, sugar, and water are not alone subject to daily but even hourly changes in mother's milk. This change may be of as important value to the infant as the change of diet to the adult. Cow's milk, modified by approximate dilution, changes at least from day to day, and no doubt but that no two bottles contain, for instance, the same amount of fat. In laboratory milk all the constituents remain the same from one feeding to another, from day to day, from week to week, until the supervising physician sees fit to write another prescription. We find the same fault in all commercial infant foods, and for this reason the milk laboratory appears to me a forward step in the wrong direction. Such infant feeding is certainly not "crude"; on the contrary, it is even more than artificial—it is artistic.

Furthermore, Crandall states that "the first and most important attempt to secure certified milk was made by Dr. Coit in Newark." Dr. Coit began his work in 1893. As a commentary on this statement I have here a circular which I will pass around for inspection, which was given to me in the Certified Dairy in Frankfort on the Main, Germany, in August, 1886. This establishment has been under the supervision of the local medical society since 1877, and this circular is dated April, 1881. Among the names signed to this paper we also find that of H. Rehn, one of the best pædiatrists of our time. We further notice that unfermented and unadulterated cow's milk is here pronounced the best substitute for human milk; that only healthy Swiss Rigi cows are used, fed on dry fodder consisting of imported Alpine hay, bran, wheat flour, and pure water only; that the floors of the stables are cemented throughout; that the stables have high ceilings, accessible to sunlight and constantly ventilated by special contrivances; that the cows are washed off twice daily; that the dairy utensils are cleaned with special care, and that all of the milk is bottled in half, one, and two-litre glass jars and delivered in the houses within four hours after the milking; and, at last, that the boiling and keeping cool of the milk are urgently recommended in large type for infant feeding.

This medical dairy in Frankfort, in which no physician is financially interested, celebrated its twentieth birthday in April last, and similar milk institutions have been in existence in most of the larger cities of Germany and Austria (Leipsic, Stuttgart, Vienna, Berlin, etc.). for fifteen years.

Dr. Coit, in Newark, certainly deserves much credit for the good work he has accomplished, but certainly not that it should be diminished in the eyes of well-informed men through the paraded elementary ignorance of overzealous admirers regarding municipal hygiene in Europe.

The distribution *en masse* of pasteurized milk for nominal prices, under the supervision of Freeman, in New York, and Getty, in Yonkers, to the most ignorant mothers in these cities, are well-meant experiments, but to my mind overstep the line in the direction opposite to that of the laboratories, by the low price charged for the milk. Such inadequately disguised and sterilized milk beggaries, no doubt, are of temporary service, but certainly would develop into nuisances as permanent institutions. A poor and ignorant mother who can daily receive prepared food for her offspring for the asking, will never learn the "why" for milk cleansing, and thus, instead of arousing a diligent zeal for properly feeding her baby, such paternalism but fosters thoughtless indolence. Twenty years of continuous service in the children's department of the German Dispensary, and thousands of visits made during fifteen years in the homes of the poorest of the poor as physician to the charitable German Society (No. 13 Broadway), have taught me that educating the poor to the necessities of cleanliness is alone of permanent value, while continuous almsgiving simply promotes beggardom. The attempts of Freeman and Getty to explain the decrease in the mortality of gastro-enteritis during the last few years exclusively by the milk distributions mentioned appear to me rather risky, because (1) no controlling records were kept concerning the progress of the respective infants, and (2) because these authors leave aside the fact that the sterilization of milk in the house and the knowledge of proper infant feeding have during the last ten years become more and more popular among the middle and working classes, and that the modern treatment of these disturbances in the dispensaries and clinics, of New York at least, has certainly aided in reducing these mortality figures.

Pasteurization of milk will never become an important factor in the prevention of gastro-enteritis, nor do its apostles appear to expect this, for Freeman openly confesses (*loc. cit.*) that "the pathogenic bacteria most feared in milk are those of typhoid, diphtheria, and tuberculosis, which would surely be killed by pasteurization." Well, Mr. President, this can also be accomplished by simply bringing milk to the boiling point! Why, then, this subtilty? The mothers of tenement-house infants will never learn to pasteurize, while the most ignorant of them can readily be taught to sterilize milk in a pot, as devised by Langermann.

As to my own experience, I must confess that sterilization is good enough for me. Wherever it fails, it is not the fault of the long boiling, but the pathological condition of the child's digestive organs, which must be removed by the physician before any milk, boiled, sterilized, or pasteurized, can be properly digested. To dabble with the milk in such cases is dodging the issue; it is the child that needs treatment and not the sterilizing apparatus.

To even enumerate the most important possibilities of infection of the infantile alimentary canal would be impossible. I prefer to confine my remarks to a source which for years past has supplied me with the most obstinate cases of this infantile ailment—namely, the early mouth infection of the newborn.

As soon as the funis is ligated and the obstetrician is convinced of the contractility of the maternal uterus, the physician's index finger enters the oral cavity of the baby to remove whatever of vaginal mucus it may there find. The maternal vagina has been explored only after careful disinfection, for he considers puerperal fever avoidable; but the baby's mouth is to him but the first accessible cavity where he may again exercise his heretofore restricted digit by vigorous movements, regardless of the vaginal and fæcal bacteria that may adhere to it. The nurse adds to this oral infection after bathing the child, and then dust-laden sugar water, stale fennel tea, sugar-filled linen nipples, impure rhubarb syrup, and, lastly, uncleaned breast-nipples invade the mouth of the innocent one in succession, and their bacteria invade the stomach, the intestine, the bile duct, and the blood. Icterus neonatorum, dyspepsia, colic, mucous fæces, long screaming, loss in weight, and often intense gastro-enteritis are the results of such modern midwifery, which so far carefully guarded the mother but not her child. Yet the accoucheur does not alone deliver the mother of her child, but also the child of its surrounding mother, and to my mind the infant has the same claim upon his care, for not alone the mother's but also the baby's life is at stake.

To prevent gastro-enteric infection of the newborn is easily accomplished. The physician's finger can be cleaned before entering the baby's mouth as well as before entering the maternal vagina during labor. Midwives, fennel tea, sugar nipples, cathartics, and filthy breast nipples can be dispensed with, and a modern confinement ought to be looked upon as successful not only after the mother's genital organs, but also the baby's eyes, navel, and alimentary canal have escaped pathogenic infection.

The treatment of gastro-enteritis in children is one of the most important duties of the general practitioner. In New York more cases of this ailment are seen during the summer months by medical men than of all other diseases combined. In spite of this fact I have found that its treatment varies so very much among physicians that an unbiased observer might conclude that the origination of gastro-enteritis was to-day as obscure as twenty years ago. Yet there does not exist another pathological condition, aside from bacillary diphtheria, which will yield so readily to early rational treatment as acute gastro-enteritis, and there is not a task imposed upon the physician so ideally satisfactory in its surmounting as the successful treatment of as yet curable cases of chronic gastro-enteritis.

"The first imperative indication in all cases is to remove all remnants of food, bacteria, and ptomaines from the stomach and intestine." These words I used in summing up a paper on this subject in July of 1889 (*Med. Monatsschrift*, page 357). Since that time the best pædiatrists of all countries have time and again called attention to this necessity, and yet we find that maltreatment of enteritic infants with opium, limewater, and bismuth mixtures is exceedingly popular among physicians in general, although such remedies are really here as much indicated as cathartics in appendicitis, and they will most probably be used until some day this or that medical brother has been punished for malpractice.

In the severest forms of acute milk poisoning, called cholera infantum, energetic stomach washing must be performed immediately. The prompt use of Epstein's method, which I introduced into this country ten years ago, has saved many lives. My former assertion that "the deeper the collapse the sooner and more thoroughly should the stomach be washed" has been completely verified as correct (*Archives of Pædiatrics*, April, 1889). Plain warm water should alone be used. All medicinal additions may do harm.

Below the pylorus the possibility of washing the bowel ceases down to the Bauhinian valve. Therefore the physician should immediately begin at the lower end and wash out the colon with large quantities of water, while the calomel powders he has prescribed to excite energetic peristalsis and excessive transudation of serum in the small intestine are being prepared in the drug store. Colon washing can then be repeated twice daily by the mother, as long tubes are not necessary, provided the child's buttocks are well elevated. If the intestine is paretic, massage is of great benefit.

If hyperpyrexia is present, the water used for stomach and bowel irrigation should be cool, and even cold. Reduction of temperature will result much more speedily by a cool continuous colon irrigation lasting ten minutes than by a cold bath of the same duration. After excessive losses of fluid by copious stools it is wise to leave appropriate quantities of water in the stomach and the colon. Alcoholic stimulation I only make use of hypodermically in deep collapse. Administered by the mouth, alcohol may do more harm than good, by increasing the irritation of the gastric mucosa. When the collapse has disappeared, because the amount of the absorbed poison was insufficient to destroy life, it usually suffices to restrict the diet of the child to water and gruel, without milk, for the next three days, for the alimentary canal to recover its equilibrium again.

As a counterpart to these cases, which most probably are chiefly caused by bacillary invasion and toxalbuminoid poisoning (*vide* Booker, *loc. cit.*), appear those presenting continuous high fever, muco-purulent and bloody stools, and tenesmus, and where streptococci predominate among the fæcal bacteria. Nausea is usually absent, so that lavage can be dispensed with, but good doses of calomel and irrigations of the colon are absolutely necessary until the last particle of mucus has disappeared from the stools. If the fæces contain blood, the rectal injection of a fifth-of-one-per-cent. to a one-per-cent. solution of nitrate of silver (at least ten ounces) after each colon washing is indicated. Where the rectal discharges are more of a muco-purulent character, a five-per-cent. solution of ichthyol, given like the nitrate of silver, has served me well. Internally, calomel to begin with; later on, salol to combat the odor, and still later tannigen (Escherich) until all mucus has disappeared.

The second chief indication in the modern treatment of gastro-enteritis is the absolute prohibition of milk, human and animal, as a food during the first three days of illness. We can not remove the pathogenic bacteria from the alimentary canal in a few hours, occasionally not even in three days. If we therefore feed the remaining germs too soon with milk they will, of course, multiply rapidly again and will form toxines which, in company with the germ invasion of the whole body, will but add to its destruction instead of to its nourishment. Even the most ideal breast milk ought to be kept out of an infected intestine until the dangerous mass-meeting of bacteria has been dispersed, for even mother's milk is no antiseptic, but will here but serve as a good culture medium for the causes of the trouble. Underfeeding of the child with water, gruels, and strained soups can do no harm here, while milk, even in very small quantities, can but aid the infection but not the nourishment of the body.

This second fundamental principle of modern therapy in gastro-enteritis appears to be even less popular among the profession than the first. Some believe that sterile milk will remain sterile even in the filthiest alimentary canal, and others are in fear of causing collapse in the child by the sudden withdrawal of milk. Both views are pædiatric antiquities which, alas! have not yet been gathered in, numbered, and nailed to the wall of the historical museum for therapeutical theories, and so removed from the possibility of evil-doing. For the healthy infant sterile milk is the best food, for the gastro-enteritic baby it is the worst.

But when can we safely begin to return to feeding milk to the convalescent child? In acute cases among breast-fed babies I have followed the rule to begin with the breast and a weak sterilized mixture of cream and gruel (one to ten) as soon as the first normal stool has appeared, and if all goes well, to gradually come back to the normal diet within a week, so as to give the weakened digestive organs ample time to gradually become accustomed to their work. In artificially fed infants the strength of the cream mixture is gradually increased and occasionally it is given alternately with soups and broths until the fæces appear normal again.

Among the chronic cases of this disease the secondary changes in the lung, the liver, the spleen, and the kidneys now and then make it difficult by their prominence to discover the enteric source of infection. In the presence of general amyloid degeneration the prognosis is very grave, yet not always hopeless. Again, where the little patients are suffering from marasmus and have shriveled down to living mummies with senile faces after months of gastro-enteritic poisoning, rational treatment is occasionally rewarded by success, although in these cases the intestinal wall appears to suffer most through germ invasion and atrophy. These patients are usually bottle fed. After having thoroughly emptied the alimentary canal, and regular colon irrigations have been instituted until health returns, it has served me well to feed such infants on soups and water for one or even two weeks. Rice, oatmeal, and barley soup cooked with lean meat (beef, veal, mutton, and chicken) and fresh, unsalted butter, with the yolk of a fresh egg added occasionally, and soup of dried whole peas (without egg) once daily, alternately given in appropriate quantities and at proper intervals of two to three hours, until all odor and mucus disappear from the fæces, surpass all factory products in these cases by far. At night only filtered water is given. Salol is given thirty minutes before a meal, three times daily. If odor and mucus are absent from the stools, a weak cream mixture is substituted twice daily, and retained permanently, unless the fæces again become fermented. Anorexia and a furred tongue call for hydrochloric acid before each meal, and in hyperacidity nitrate of silver before and bicarbonate of sodium after each feeding have given me good results. Within the last few months I have occasionally made use of ichthyol in streptococcus enteritis. Mr. L. Weiss, who superintends the prescription department of Eimer & Amend, has been kind enough to experiment with this drug until he found a palatable mixture for infants' use: Ichthyol, 1.5 grammes; glycerin, four grammes; elix. e. succ. liquir., 24.0 grammes; aquæ destill. ad 60.0 grammes. Three to six times daily one teaspoonful. Together with five-per-cent. solutions used for colon washing this drug will be of use in destroying the vitality of the streptococci in appropriate cases. In mixed infections it will assist; in the bacillary cases (of the choleraic type) it is useless.

You will admit, Mr. President, that my stock of drugs for use in gastro-enteritis is very small; yet I would not do without those I have mentioned, for I have found them of value if appropriately given together with the above-mentioned dietetic and mechanical treatment of this ailment. No doubt some gastro-enteritic cases will always end fatally in spite of all care, but to my mind many children die in New York every year that ought to have been saved in view of our present knowledge. As soon as the general practitioner wakes up to the fact that the smallest gastro-enteritic baby intrusted to his treatment has the same claim upon his thoughtfulness as his most prominent patient suffering perchance at the same time from pneumonia and fatty heart, then, no doubt, will the mortality among young city children begin to decrease visibly. To incite to this has been my object to-night.

Bibliography.

Hueppe. *Mittheil. aus d. Reichsgesundheitsamt,* 1884.

Escherich. *Die Darmbacterien des Säuglings,* 1886.

Booker. *Archives of Pædiatrics*, February, 1890; *Johns Hopkins Hospital Reports,* vi, 1896.

Seibert. Cholera Infantum and the Weather. *Medical Record,* March, 1888.

Czerny and Moser. *Jahrb. f. Kinderheilkunde,* 1894.

Freeman. *Arch. of Pædiatrics,* November, 1897.

114 EAST FIFTY-SEVENTH STREET.

THE TREATMENT OF
CHRONIC SUPPURATIVE OTITIS MEDIA.*

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A PROPER comprehension of the factors involved in the treatment of chronic suppuration in the middle ear may best be arrived at by briefly considering (1) the pathological processes which induce suppuration in the tympanic cavity, comprising the micro-organisms involved; (2) routes of invasion; and (3) the conditions which prevent their escape or destruction. Whatever the inflammatory type, catarrhal or suppurative, pathogenic micro-organisms play the most important ætiological rôle. Seldom do we find the micro-organisms in the ear, even before perforation occurs, unmixed, or in pure culture. The *Staphylococcus pyogenes* is most frequently found as the mixed infection at first and for a time after perforation has occurred. Later the exudate is characterized by the presence of an ever-increasing number of various micro-organisms of putrefaction; so that in a case of chronic suppuration of the tympanic cavity we have to consider not only the pathologic processes going forward in the tissues themselves, but also the biologic activities taking place in the discharge as well. It is highly probable that nearly all the germs of putrefaction gain entrance to the tympanum through the perforation *via* the external auditory canal. This is a most important fact to remember. Once in the middle ear, they have all the conditions favorable for their luxuriant growth—a salubrious soil in the exudate, heat, and moisture—a test tube and incubator all at once. Thus have we formed a vicious circle of potentialities which react one on the other to perpetuate the disease: the tissues, on the one hand, from the original invasion, secreting a nutrient medium for the use of micro-organisms living in the secretion itself, which by the irritant qualities of their excreta reacts upon the tissues to the end that more of the medium is sent forth to be still further decomposed.

Route of Invasion.—The tympanic cavity may be infected by way of—

1. An intact drumhead, as in erysipelas, furunculosis, etc.

2. Through a perforation of the tympanic membrane, augmenting always an existing inflammation.

3. By way of the circulation. (1) In the congenital otitis media accompanying infectious diseases *in utero,* variola, relapsing fever, typhus, diphtheria (Moose), etc. (2) In the same diseases occurring later in life. (3) In endocarditis (Trautmann).

4. *Via* the tuba Eustachii. (1) Indirectly by way of the lymphatic interspaces of the connective tissue;

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(2) directly by continuity of the mucous membrane, and this is the most common way; (3) through the lumen of the tube, as in forcing infection-laden mucus into the ear during coughing, vomiting, douching, etc. It is said that infections may reach the middle ear by way of the fissura petrosquamosa, and Gradenigo in a case of cerebro-spinal meningitis has found the same micro-organisms in the tympanum about the region of the canalis Falloppii as were present in the meninges.

Apart from the peculiar pathogenic character of the various micro-organisms, there are other factors which determine the type of an otitis. In other words, the same organism may under different conditions give various types of inflammation. This is dependent on the intensity of virulence, the number of organisms, the resistance of the tissues, and the rapidity of invasion. On these data Moose has divided the resulting inflammation into three categories:

1. Those cases in which a relatively small number of organisms gain an entrance to the tympanum through the lumen of the tube and produce there, by a mucoid metamorphosis of the cell protoplasm, the secretory form of middle-ear catarrh which, without treatment, may exist for months or years without suppuration occurring. Suppuration supervenes only when the organisms increase in number on account of a change occurring in the nutrient medium of the mucous membrane from taking cold, injury, or when additional organisms are forced into the middle ear.

2. Those cases of hæmatogenous invasion which cause infiltration of numberless polymorphous wandering cells in the mucous membrane—as, for example, in measles, scarlet fever, diphtheria, etc. Each focus is inclosed in a fibrinous network, causing the mucosa to become hyperplastic. In this form there is no tendency to suppuration. Instead, the microbian products of metabolism may be exerted to produce changes in bones, necrosis of the blood-vessels, etc., but metamorphosis occurs in the end without the formation of pus. The most probable cause of this is either a relatively small number of microbes of attenuated virulence, or the absence of true pus-forming micro-organisms.

3. Cases in which suppuration occurs, the same being divided into (1) those in which suppuration is slight, without perforation; (2) those in which suppuration is profuse, with perforation; (3) those in which the onset is rapid, the suppuration enormous, with destruction of large areas of the tympanic membrane and exfoliation of the ossicles.

Now, all things being equal, it may readily be conceived that those forms of hæmatogenous infection are prone from their very inception to chronicity, because the changes wrought and the process of repair in such cases are vastly more complicated and elaborate than those in which simple surface invasion has occurred. In the latter class of cases, at least for some time after their beginning, only the superficial portions of the muco-periosteum are involved. Of course, even cases of surface invasion—*i. e.*, those cases in which the micro-organisms have penetrated from the surface—may assume the conditions present in hæmatogenous invasion. While it is true that the exudate formed from true surface invasion may be purulent in character, it is probably a fact that the exudate from hæmatogenous infection is always purulent, for here we have all the factors present which are at work in true abscess formation.

It seems proper that we should begin the consideration of the treatment by contemplating those factors which tend to prevent healing. I have come to believe from experience that many cases of catarrhal inflammation assume a suppurative, a chronic form because of ill-advised treatment. One of the most prevalent errors in this regard is the empirical and illogical use of ear drops, douches, powders, and inflations. Let me here quote from a paper which I recently read before the Chicago Academy of Medicine on the subject of The Treatment of Acute Otitis Media:

"In acute conditions drops can only be used in the sense of a fetich or amulet. We are forced to this conclusion by considering the conditions as they here exist. First of all, except in those rare cases in which violent necrosis of large areas of the tympanic membrane takes place, the perforations are at first very small, measuring in diameter that of a hair to that of a pinhead. The surface tension of a drop of water alone, or a column of water which the external auditory canal may accommodate, will prevent its penetration through such a small opening, to say nothing of solutions which have greater specific gravity. And even if such solutions did enter beyond the perforation, what can we hope to accomplish? Entrance can take place only by the solution diffusing more or less with the contents of the tympanic cavity, and when this occurs we have merely the formation of an insoluble precipitate from the secretory contents of the cavum in the case of the metal antiseptics and astringents, and infection from the anodynes. That this is bad treatment must be apparent."

The first condition to be met in chronic as well as acute otitis media, whether suppurative or catarrhal in form, is drainage. This is as important in otology as in general surgical practice. There is no other factor which tends to perpetuate a suppurative ear disease so frequently as lack of drainage or retention of discharge. I believe this so implicitly that I have instituted the following treatment at my clinics to the exclusion of much that has been practised heretofore. Rarely are injections used. The ears are cleansed by carefully swabbing away secretion by means of sterilized cotton pledgets. These pledgets are kept constantly on hand, and are prepared in the following manner: Common toothpicks are used as carriers, the ends of which are wrapped in absorbent cotton; test tubes are filled with these and the tubes stopped with cotton, as is done in preparing them for bacteriological purposes. The whole is then sterilized by dry heat. In this way we have always at hand thoroughly aseptic swabs. The external auditory canal is then packed with a strip of sterilized gauze a quarter to an inch broad, care being taken that it barely touches the membrane. As our view of the drumhead is shut off as soon as we introduce the end of the gauze into the ordinary auditory canal, I have devised a probe for packing the gauze. This is graduated in millimetres, so that by taking a measure of the depth of the canal before introducing the gauze we can see at any time to what depth the gauze has been introduced. It is also roughened on the end that it may readily catch the gauze. I have used iodoform, sublimate, and boric gauze. Iodoform gauze is irritating to some individuals' skin and objectionable to others on account of its odor and taste; but, on the whole, it has been found quite satisfactory. The naphtholated quinoline gauze of Haug would seem to be especially suitable for this purpose, as pointed out by Fougeray. This gauze contains five per cent. of quinoline and 2.5 per cent. of naphthol. This combination forms a salt which is deodorant, is highly antiseptic, and soluble in pathological fluids. I have lately been using three-per-cent. nosophene gauze for packing. It is non-irritating and antiseptic, and has the advantage of not being decomposed by high degrees of heat. We may fill large test tubes with this nosophene gauze, and then the whole may be sterilized and kept on hand. This means of transportation is found useful in house practice. After the gauze is in place, the vestibule of the auditory canal and the conchæ are packed with sterilized cotton, and the whole is held in place by collodion applied to the surface and edges of the cotton and skin. I am convinced that this treatment will do what no other single form can do. I am continually surprised at finding those cases which have gone on for years becoming dry in the course of a couple of weeks or even days under this simple method of treatment. Astringents, such as the zinc, silver, and lead solution, are used less and less. Likewise the enlarging of pre-existing openings in the drumhead is becoming less frequent. Only in those cases in which the perforation is small and situated high up is the operation done at once on seeing the patient. Those situated near the lower periphery are left untouched—though the membrane is thickened—for at least two weeks or a month under this treatment. So great is the capillary power of these drains to continuously empty the tympanum of its contents that the majority of such apparently unfavorable cases as these will at once lose their odor and later become dry. It is necessary to change these dressings daily. The packing does harm if allowed to remain after it has become saturated with discharge.

Douching.—There are cases, few I admit, which demand irrigation. In these cases the ear is cleansed through the Eustachian tube whenever possible. When the affection is bilateral we use Grueber's method. A syringe with a blunt point, holding two ounces, is introduced in the nostril. The other nostril is closed by the thumb, as in politzerization. The patient is told to blow out the cheeks forcibly, when the contents of the syringe are forcibly ejected. In this way the solution is forced through the Eustachian tubes into the middle ears, through the perforations into the external auditory canals. Boric acid, five per cent., is the most frequent medicament used in the solution. When only one ear is affected the injection is made by means of a catheter. Both of these methods are difficult of application in the case of children, and are rarely used in such cases. Politzerization is occasionally necessary in this method of treatment. In unilateral disease the catheter is invariably used; in bilateral, politzerization.

Surgical Treatment.—Where the discharge continues after a month's treatment by this method, we resort to operative interference, provided there is no indication of polypus formation or caries when the case is first seen. In case a polypus is present, we snare it away immediately, or, in the case of opposition to operative interference on the part of the patient, we reduce it by means of sesquichloride of iron or alcohol.

We are all aware of the usual futility of treating by the ordinary methods those cases in which fistulous perforations occur primarily in the membrana flaccida, for in such cases there is, perhaps without exception, suppuration in the attic—*i. e.,* caries of the malleus or incus, or both. In my hands syringing of the attic by means of Hartmann's cannula has proved unsatisfactory in almost all cases. Schwartze regards as nearly pathognomonic of caries of the head of the malleus a perforation over the short process of the malleus, with or without the presence of granulation. Further experience has fully verified this conclusion since his first publication in 1884.

Grunert gives the following otoscopic pictures as aiding in the diagnosis of incus caries:

1. Defect in the extreme upper portion of the tympanic membrane, through which can be seen the retracted malleus. Beneath the upper and posterior edge of the perforated membrane may be seen small granulations, or, after careful irrigation, a small drop of pus remains, coming from above behind. (Caries of the long process of the incus.)

2. Perforation behind the malleus reaching above the membrana Shrapnelli and forward quite or nearly to the process of the long malleus. (Caries of the long process of the incus.)

3. Fistula in the membrana Shrapnelli behind the processus brevis of the malleus. (Isolated caries of the incus.)

4. When there are two fistulous openings above and behind the processus brevis, or when the entire membrana flaccida is replaced by broad granulations, the coexistence of caries of both the incus and the malleus is

in the highest degree probable. Schwartze gives the following conclusions, based on the condition of the ossicles in a series of cases, the tympanic cavities of which were laid bare by external operation:

1. The ambos becomes earlier and more frequently carious than the hammer.

2. Isolated caries of the ambos occurs more frequently than isolated caries in the hammer.

3. In isolated caries of the incus the incudo-malleus joint is unaffected.

4. The long process of the incus is by far the most often carious.

5. The incus is frequently destroyed *in toto,* even when the malleus is wholly or in part still present.

Guided by my experience, I have formulated the following indications for operating:

1. When the perforation is situated anywhere in the pars tensa, is small, the membrane thickened, the discharge copious, pustular, long continued, and offensive, and which has resisted the continuous treatment by means of the gauze drain for one month.

2. When more or less of the pars tensa has been lost, together with the handle of the malleus, and the discharge can be seen issuing directly from the attic.

3. When any of the indications formulated by Schwartze or Grunert are present.

It may be superfluous to touch upon the technique of the operation in this place; but a few practical points that have been impressed upon me through my own experience may not be out of place. As regards narcosis, chloroform or a general anæsthetic should always be used in those cases where any considerable amount of the membrane remains, or where we suspect a great deal of granulation tissue, for here the pain is usually intense during the operation, and hæmorrhage from the granulation tissue is very likely to delay manipulations. Cocaine may be relied upon in those cases where the tympanic membrane is largely destroyed and where granulation tissue is nearly altogether absent. The after-treatment should be the same as that pursued before operation—namely, packing with gauze drains every twenty-four hours.

In the suppurative cases the removal of the malleus and incus is usually highly satisfactory. I have seen cases that have run along for twelve years or more in which suppuration ceased in two months after the operation. I remember one case, having a duration of nineteen years, in which the ear was practically dry in three weeks. We are not justified, however, in expecting that all cases will have so happy a termination. I have had a case under my care which was operated upon by Professor Lucae, of Berlin, over a year and a half before, and the suppuration, foul and abundant, continued. In this case the membrane had not reformed in the least part; the pus seemed to rise from a point at the superior posterior portion of the cavity. Here I detected a superficial caries. After carefully scraping the diseased area and packing with iodoform gauze for a short period the suppuration ceased entirely. Afterward it developed that this was a case of true tuberculosis of the temporal bone, and the patient died of tubercular meningitis. Indeed, I believe it is the rule that relapses are very apt to occur until the cavity has been completely epidermized; the loss of the protecting tympanic membrane accounts for this to a great extent, I believe; so that I regard it as important that we instruct the patient to wear a pledget of cotton in the external auditory canal constantly for a long period of time. I believe that boric acid packed in the ear has a most beneficial effect in hastening and stimulating epidermization of the middle ear, and the same may be said of nosophene.

I will not touch on the treatment of the cicatricial conditions following suppurative inflammation. When we determine upon the removal of the ossicles for suppurative otitis, the effect which that procedure may have upon the hearing power scarcely enters, or at least very remotely, into consideration, for the removal of the suppurating focus in this locality is much more important than the preservation of audition; but, happily, we may hope not only that the same degree may exist after the operation as before, but that it may be increased. Luedewig, in analyzing the cases operated on in Schwartze's clinic at the end of 1891, found that in half the cases the hearing was markedly increased, unchanged in about a third, and decreased in about a twelfth. In Jack's eleven cases all were improved in the hearing power.

I have purposely refrained from considering external operations or the treatment of disease of contiguous parts, such as the nose and the post-nasal space, as such a course would give undue length to the paper.

NASAL AND OTHER POLYPI.*

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THE natural question in the minds of one and all of you, no doubt, is Why was this subject, one of the most dry and thoroughly discussed in rhino-laryngological literature, chosen for to-night? I confess to feeling a great deal of diffidence in so doing, the more when I reflect that I am presenting my paltry collection of facts and ideas to so august a body as your section of the academy, numbering in its membership many that are better fitted in every way than I to speak as touching this very matter. And yet, as a class in sketching may have the same model and produce very different pictures of it—each true to life, but each a separate effect, due merely to the different point of view—and as each such picture may present something attractive, or emphasize certain points or characteristics more than its fellows, so I am emboldened to try and present to your critical and desultory consideration, as briefly and intelligibly as I may be able, some views I have lately had of the life history of nasal polypi, disclaiming, however, on the start any pretensions to a superior knowledge of the subject.

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* Read before the Section in Laryngology and Rhinology of the New York Academy of Medicine, October 27, 1897.

Fitting, therefore, the deed to the word, I ought first to make plain the point of view from which the sketch is made, that the picture may be more exactly appreciated. The following facts, long ago observed, and perhaps until lately but poorly explained, were the exciting cause of the investigations to be described.

Typical nasal polypi have always been noticed to be more frequently present in the upper regions of the nose, in or about the middle turbinate body. Polypi from other situations in the nose always lose more or less of the exquisite delicacy, translucency, and coloring of the first-named region. Only certain persons, and these but a comparatively small number of those affected by catarrh, ever seem to grow polyps. Polypi developed on other mucous membranes than the nose seem to vary the more as they are farther removed from it, and are almost never macroscopically typical; that they came at all in other regions argued that other influences could produce them besides those operative in the nose; but still they were immensely more frequent in the latter, leading to the conclusion that some particular peculiarity of the tissue, or conditions affecting it, existed there. Another point in evidence was that they developed in extremely typical form in the various sinuses connecting with the nose when there were no polyps present in the latter, and therefore in a region removed from the irritations peculiar to the nasal mucous membrane proper. Even in the nose they were rather typically present in the most accessible regions—viz., sæptum low down, and the inferior turbinate body. Again, they rarely failed to present themselves in some form, and that usually of the most typical, whenever pus was present in the nose, and frequently preceded by granulation tissue; even then rarely except in the upper part of the nose. When the pus ceased to flow, polyps produced by it ceased to grow, and frequently disappeared without operative procedure. A further significant fact impressed itself, that where pus was long present in an ear, granulation tissue developed, and out of that would occasionally be developed a mucous polyp, arguing that pus could produce by its effect on other membranes than the nose a kind of polyp. Still pus, as in leucorrhœa on another mucous membrane, seldom seems to produce polypi, and granulation tissue in a urethra seems almost never to assume any polypoid degeneration. How infrequently do we see mucous polypi of the larynx, pharynx, and even nasopharynx, although tumors of these regions are not rare!

The deductions from this seemed to be that polypi in some instances were developed where there was manifest only that form of endorrhinitis to which we are pleased to give the extremely indefinite title hypertrophic catarrh. This caused in the region of the middle turbinate body, hiatus semilunaris, or thereabouts certain effects, the outcome of which was a mucous polyp, coming therefore directly from the thickened mucous membrane. When pus comes in a nose, polypi seem to be developed in two ways: first, in the production of genuine granulation tissue, and from it polypi, and the other frequently in the same nostril by a thickening of the normal membrane, and gradually the external form of a polyp; in all the latter process there being in most cases only the external form to indicate whether to call a certain thickening a polyp or whether to call it a hypertrophy. The results of each of these three methods was apparently always the same when the observed effects were in a favorable region of the nose or when they occurred under similar conditions in an ear, and apparently the conditions named did not produce the same result in other regions, the inferior turbinate and sæptum. Thickenings occurring in the former of these two locations grew gravid with age, but never were in any sense polypi; hence the only conclusion could be that all the conditions were not similar. It therefore suggested itself to inquire: first, into the differences in the structures between various regions of the nose; secondly, whether there could be any difference in the morphological constituents of the polypi produced with or by pus and without; thirdly, what was the general relationship borne by the polyp of the middle ear to its mucous membrane; fourthly, whether there was not the same index of change to be noticed as takes place in the case of middle turbinate polyps from the normal mucous membrane of the inferior turbinate to its nearest approach to a mucous polyp, the white, pendulous posterior hypertrophies of the asthmatic or hay-fever subject; and, finally, if this last were true, would it be also true that the fibro-myxomata of other regions varied from the typical mucous polypi only in the same measure that a normal mucous membrane of that part did from that of the middle turbinate body.

To this end Dr. Earle Terry Smith and I examined a large number of polypi: first, from all sorts of nasal cases, purulent and non-purulent, being extremely careful to always compare polypi of identical situations, and the finest histological changes were chronicled. Specimens were stained for possible micro-organisms in the tissues, as also for structure changes or peculiarities of the tissue cells and of the leucocytes. Second, antral polypi were carefully studied. Ear polypi were next examined and compared; posterior hypertrophies of the inferior turbinate, papillary polypi of the sæptum, fibro-myxomata of the larynx and of the epiglottis, polypi of the uterus, and, finally, a fibroma molluscum of the skin, which bears the same relation to cutaneous fibromata as does the polyp of the nose to nasal pharyngeal fibromata. Specimens of most of these varieties are at your service for inspection this evening. The most time was given, and the greatest number of specimens were examined with regard to the possibilities of differences between the pus cases and others, and we were able to discover only very trifling variations. No bacilli, or cocci, or parasitic bodies seemed to be present in the tissue, nor yet in the leucocytes. There were sometimes more leucocytes present in the pus cases in the substance of the polypi than in the non-purulent, except as these latter were from asthmatic cases. If the polyp was removed during the existence of an attack, or on days when paroxysms had been present, it would contain as many or more leucocytes than the pus cases. Such differences are probably due to the fact that, as shown by recent observers, the blood varies much as to its eosinophilous and other white blood cells from time to time, and this condition of the blood would cause the variation in the number of the cells in the inflammatory tissue of the polypi. In support of this I mention that besides other evidence already well known, it has been observed that the blood of a patient who has a localized purulent process almost invariably contains many more leucocytes than normal blood, and even so much so that it is proposed to diagnosticate whether appendicitis has developed pus or not by counting the white corpuscles. Why may not a purulent antrum do the same?

As a result of the investigation, it was impossible to distinguish any other difference between the œdematous nasal fibroma (the best name for nasal mucous polypi) when produced by pus or without, and both of these differed only in the external form from the simple pendulous hypertrophies of the middle turbinate. Sections from the base of a non-purulent antrum polyp and that from an empyema case looked identical. The majority of ear polypi differ microscopically from their nasal brethren only in the character of the epithelial and tissue cells, and in the amount of fibrous and glandular tissue. Some ear polypi are papillary hypertrophies of the mucous membrane; others are pure œdematous fibromata, containing all the essentials understood under such a name, even to the colloid degenerated cells observed and recently described by Polyak.* These latter I have often previously observed in the double-stained specimens from various œdematous fibromata. Some of these ear polyps exhibit in a striking manner some points brought out by Jonathan Wright in a recent paper.† He suggests that papillary corrugations on the surface of certain nasal polypi were due to the bands of connective tissue, which latter, exercising one of its inalienable rights, contracts, and thus the surface epithelium is thrown into the folds which characterize these growths. Such polypi contain a large amount of fibrous tissue. Other ear polypi are the purest types of granuloma that are obtainable, and one finds all the gradations in different polypi from this simple form of tissue to the well-developed and thoroughly organized conditions present in the usual œdematous fibroma, it apparently requiring simply time to produce the necessary differentiation or organization, from a growth of young cells and blood-vessels to the adult tissue. In the nose the process of change can be watched and thoroughly studied. Here granulation tissue seems to readily grow after operations, such as removal of spurs on the sæptum, or curetting of the ethmoid region. Examination of such tissue from either region shows it to be microscopically identical when first formed. It seems to be most easily produced and to be most exuberant round bits or tags of tissue left after the operation, and this fact emphasizes the wisdom of our endeavors to always leave as smooth a wound or operative surface as possible. Except as these tags differ, the tissue is identical in both regions. Yet how different is the history in the case of the middle turbinate, which we have scraped or removed! In a polyp case we frequently observe—I might say almost always in purulent cases, if pus continues to flow—that the simple little knob of granulation tissue has grown, if it has remained undisturbed; lost some of its brilliant red color, has become clothed with a perfect covering, is more consistent, and, in short, becomes in time a fully organized tissue, an œdematous fibroma. It rarely has, however, no matter how long it remains, any ciliated epithelium, the transition being from the crudest form of covering to a mongrel flat epithelium, and from this layer to the ordinary epithelium as it is found in layers on the surface of polypi, where they rub together, or where the ciliated cells have been lost by other means. Such surfaces have a tendency for the mucus to stick to them owing to the lack of cilia. In keeping with the changes of epithelium other structural changes occur, by which the simple mass of blood-vessels and cells receives an intercellular framework. With this change the young round cells become fewer in number, and finally we have a fine meshwork of reticular tissue, with spaces between the fibres, and these latter filled with a few cells and a semifluid substance. The blood-vessels have become very much fewer in number and are scarcely found except near the surface. We thus have the typical picture of a mucous polyp.

These changes have been noticed clinically by us all, and it is now recorded as having been watched microscopically step by step, in some instances in all stages in the same patients. If, however, even in pus cases we leave a granulation on the sæptum, it seems never to transpire that there develops from it a polyp. If allowed to take its own course, the tissue reaches a certain exuberance of growth which is followed by a

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* Polyak, L. Fraenkel's *Archiv*, Band vi, S. 101.

† *Transactions of the American Laryngological Association*, vol. xix.

contraction down to a solid knob of tissue, which if examined turns out to be quite largely fibrous tissue covered with a flat or layer epithelium, according to age, as is present in most cicatricial tissue. We all know clinically that such knobs on the sæptum may resist quite persistently our efforts to reduce them. It is thus made evident that even if the number of such observations is small, there is certainly ground for the belief that in these two similar cases the resulting tissue differs because of its environments. Just what the reason is for this difference in the history of granulation tissue is not apparent, except that even in the middle turbinate region we have, as already stated, a greater tendency for the tissue to become a polyp in the presence of pus or older polyps, and pus is always a necessary factor in the case of ear polyps, the processes in each being identical.

It may be urged that owing to the cells which are present in the mass of granulation tissue, or left in the tags of tissue referred to, there is instituted the direction of the new growth following the invariable law of like producing like. This law would account for granulation tissue in polyp cases producing polyps again, even in the absence of pus.

Turning our thoughts to the tissue most similar to the mucous polyp which occurs in the inferior turbinate region—*i. e.*, the pendulous white hypertrophies, which in my experience are apt to be present in hay fever or asthmatic subjects on the posterior end of that body.

As may be seen in the specimen which I have with me now, the main differences between it and a middle turbinate polyp seem to lie in two directions: its greater density, as evidenced by the large amount of fibrous tissue, and the larger number of glands and blood-vessels, the latter well supplied with muscular fibres in their coats. There are also fewer spaces to which one might apply the term œdema spaces, together with a marked increase in the number of cells which these dead spaces between the fibrous connective tissue hold. In some specimens the fibrous tissue is so well developed that one immediately thinks of a true fibroma. I have examined a number of specimens of separate growths which would macroscopically seem to be typical œdematous fibroma, and except for the beautiful papillary surfaces they were microscopically the same as the hypertrophies themselves.

Further work included, as before stated, all the tissues which I could conscientiously call mucous polypi, and one could readily assume as proved that in the specimens examined, at least, the tumors did not vary one from the other more than did the normal tissue of the parts producing the growth, and that said variation was according, apparently, to a fixed rule, that the more dense and fibrous a tissue was so was also its form of mucous polyp. The most delicate mucous membrane producing polyps is certainly that of the ethmoid region, or perhaps the interior of the antrum, and one can scarcely conceive of anything more beautiful in its delicate meshwork than a thin section of healthy mucous membrane of the middle turbinate. Here, therefore, we found the most beautiful specimens of polyps, and the dense and intensely glandular mucous membrane of the uterus produces its own kind.

Considering, then, that this old conclusion is fortified anew by these more recent proofs, is there anything particular about the general makeup of any given mucous membrane which, when all has been said, will account for the very infrequent appearance of polyps, or polypoid hypertrophies, as compared with the simple hypertrophy or thickening? So many of us have the latter for years and yet never have the former. If we accept what is in evidence, we must believe that there must be in some given cases a simple hypertrophy which will never become anything else. In another, let us say for the sake of argument a neurotic subject, the same amount of inflammatory action results in a more or less pendulous œdematous hypertrophy; and why? Every form of irritation in the nose tends to produce an exudation of moisture; a severe irritation causes the eyes to water, and a further watery secretion tends to come from the nasal mucous membrane and we sneeze. Given excessive irritability of the nerve fibres in an inflamed mucous membrane of the middle turbinate region, and we have the untoward effects of hay fever always presenting excess of watery material. Polyp cases, one and all, have excess of moisture, sometimes so much so that it could easily be conceived to be an osmosis or leakage from the polyps themselves, for the glandular development does not always seem to be in keeping with the amount of moisture. Excess of fluid, therefore, seems to be inherent in all these cases. A hay-fever case is aware of the subtle irritation from pollen, of which the rest of us are totally ignorant. Now conceive for a moment of, from any cause, a chronic endorrhinitis existing in our patient with his supersensitive nerve fibres. The chronic inflammation, either by pressure or the irritation of pus, or both, produces locally, by the same physiological principles as the pollen did in the hay-fever case, by some effect on the nerve fibres, or on the cells making up the walls of the blood-vessels, or both, a greater influx of fluid into the tissue of the region of the middle turbinate, and there results a dependent hypertrophy, a pale translucent thickening. Some parts of it are less intimately bound down to the bone than others, or the surface fibres are less tense, and we have a bagging over certain areas which produces a greater tendency to attract the more watery constituents of the tissue because it is the most dependent part of the adjacent tributary territory. The result is that "unto them that have shall be given," and behold it grows apace until by very excess of weight it stretches, bulges at the bottom, becomes narrow at the top, and a pedunculated polyp of small stature suddenly appears, as we so often see them budding forth in clinical experience.

The deduction from the foregoing is the acceptance of the already well-proved assertion that polyps are purely inflammatory and involve the pre-existence of a hypertrophic condition of the mucous membrane. Then the reason why one man has a polyp and the other not, under precisely similar local conditions, seems to lie in some inherent quality of his tissue.

I have assumed in a former paper * in a line of argument explaining why hay fever, perennial sneezing, catarrh, and asthma existed, that there must exist some oversensitiveness of the nerve fibres supplying the inflamed area; which condition rested upon what could be classed as a depraved condition of the nervous system. On this supposition we could explain why so much more fluid goes into the tissue of one man than another from the same local cause or inflammation, and then whether he got out of it a large, pendulous hypertrophy or a polyp is purely a local issue.

We therefore have to look for the final cause of polyps not only in the middle turbinate but in the constitution of the individual, and, if latter-day investigation has taught anything, it has been to lead us not to expect to find any specific bacillus or parasite which causes our polyps, but that we have got to get at the pre-existing catarrh and constitutional conditions which produce our endorrhinitis. In brief, a polyp is a symptom, not a disease.

And from the little polyps grow the larger; the larger it grows the mere sustenance of the tissue requires that new blood-vessels must supply the increased demand, or the old must be greater. Thus the resulting hyperplasia or thickening virtually appears to be an effort of Nature to afford sufficient hold for the heavy growth by giving it, in the lay sense, deeper roots. What could then be easier than to suppose that as a result the very intimately related periosteum should become involved, and still later the bone itself? And first in the way of increasing bone growth, and later we find that contraction, or cicatrization, actually causes the rarification of the same. In this line of investigation some very beautiful results have been achieved by some investigators, notably Hajek.† And it happened that this was exactly in the line of work which I was then starting. What I have accomplished thus far seems to confirm his conclusions, but I have been unable to quite assure myself of all he seems to have so clearly demonstrated. He finds that in most cases of pendulous hypertrophies of the middle turbinate there sooner or later appears some participation in the disease-process on the part of the external periosteum. It becomes thickened, full of young, proliferating connective-tissue cells and leucocytes, and along the free edge of the bone there are later to be found the large cells arranged in rows which are always present in growing bone. As time goes on these osteoblasts evince their activity by actually causing a deposit of new bone, frequently in the way of rough projections from the surface, leaving the impression to the naked eye of roughness due to erosion. Clinically, we are accustomed to find often a cleavage of bone to take place in the anterior end of the middle turbinate, and this, as also the uncleft bone, is sometimes largely increased in size. Invariably, however, if we have snared off an hypertrophy, and thus uncovered the bone, or inspect a piece which we have removed, we find the surface jagged, uneven. It has the same sense of roughness to the probe which has so frequently been called caries, and I have myself supposed that I had such. However, it seems to be living, well-nourished bone, and has been produced by an actual proliferating osteitis. This activity of the cells immediately connected with the bone in the periosteum also goes over into the marrow spaces, and they become full of smaller and larger cells, and lying around close to the bone we find the same osteoblasts, with all the other evidences of proliferation noticed before.

In other specimens, sometimes in the same subject, there is found quite an opposite process—namely, a resorption of bone substance, a so-called rarefying osteitis, Here, apparently by some overcrowding of the marrow spaces, or of the subperiosteal tissues, or by the contraction of the fibrous tissue which is always deposited where active connective-tissue hyperplasia is going on in any part, there occurs a complete absorption of the bone in such a way that small islands are cut off from the main mass and gradually disappear; or points, spiculæ, or projections occur from the surface of the bone, giving to the base of larger and older polyps the feeling of grating or clicking when a probe is pushed into the pulpy mass to see if there is any retention abscess. I have often been surprised not to find pus in such a mass, believing, as I did, that this roughness to the probe must be caries, and I can readily see now why I did not. There is not a death and mortification of the bone, as must be understood by caries, but rather a mere rarefying or absorbing process. This also explains, if we accept the teaching, why the much-attacked assertions of Woakes could have had their existence at all. He made them in good faith based on microscopical study, but he did not rightly interpret what he found. That there is a crumbling condition of the bone is true, but it was rarely caries, molecular death. That caries was in any sense the forerunner of the polyp ought never to have been entertained if the process was studied, as it always begins by the budding out of an already thickened mucosa, and it has been proved that such a thickening may exist a long time without the bone being at all dis-

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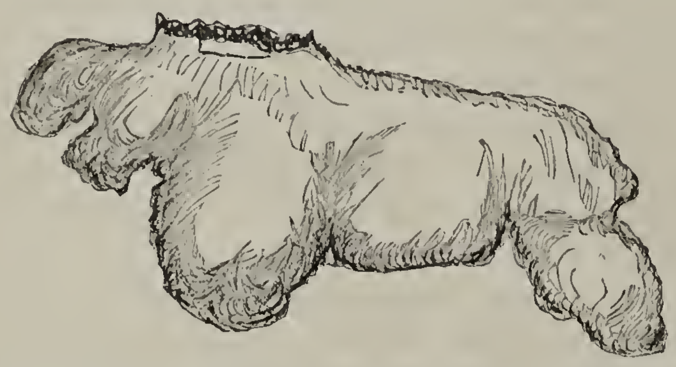
* Asthma: Its Intranasal Origin and Surgical Treatment. *The Medical and Surgical Reporter*, August 20, 1892.

† Fraenkel's *Archiv*, Band iv, 277.

eased. It would be very easy for one to be led into the belief that the bone changes were very general, but I can say that I have been personally disappointed in getting very good specimens. My latest disappointment I have brought with me. In the specimen which I pass around (see cut) the mass brought away with it the bone upon which it had grown. It, by the way, exemplifies in no uncertain way how frequently what we remove as apparently single growths are really but dependent parts of a large hypertrophy. A section was cut out where it shows in the specimen, decalcified, and subjected to rigid examination. I found the main bone healthy; the periosteum, however, very much thickened, filled with young, active tissue cells, and with every evidence of hyperplasia; the glands are extremely numerous, and they exhibit beautiful examples of goblet cells bursting with mucus. There is the beginning of the formation of the rows of osteoblasts, but no indication of any proliferating or rarefying osteitis. Just how frequently and under what conditions the latter occurs will have to be elucidated by further study, which I am intending to do. Certainly we have in this particular portion of the bone from the turbinate body, which has been diseased for years, but few of the changes spoken of by Hajek, except in the periosteum, and perhaps in the marrow spaces. The process surely is not that of bone proliferation, and the fact that the bone broke off so easily may mean that rarification has begun.



Œdematous hypertrophy from the middle turbinate, showing bone detached with growth. Dotted lines indicate where section was made. Exact size of specimen after prolonged sojourn in alcohol.

It remains also to consider whether there is any more reason for this bone alteration happening in the region specified than in other parts of the nose, and my own conviction would be that there is certainly more intimate connection on the delicate convolutions of the middle turbinate body between the mucous membrane and the periosteum, and therefore the easier possibility of the latter becoming involved in the process, than occurs in the case of the inferior turbinate. We have still, also, to explain why some cases of polyps get quickly well without returns, and others seem to defy our utmost endeavors to stop them. Sometimes our kind friend, "Father Time," comes to our rescue, and, by one of the as yet inexplicable turns of clinical experience which we have learned to expect in the case of atrophic rhinitis, the patient gets well, while we may not even be treating the case, or at least are doing the same old things we have always been doing. Others do not get well even when we work and patiently wait.

What the explanation is, I can only suggest as occurs probably to you all. Those that get well do so because the whole process is not dependent on too vitiated a constitution without too much of the neurotic element, and that the local process is not far advanced; or, still more probable, our local treatment actually stops the local endorrhinitis. For example, our thorough treatment of exostoses and the hypertrophies causes the original trend of blood to the part to be diverted, hyperplasia stops, and behold, we conquer!

In the second case, where for some reason they get well, apparently after endless repetition of the same measures, it is that the cicatricial process finally so reduces the blood supply to the parts as to starve the more active inflammatory production, and the growth of the new tissue becomes less and less, the process stopping in these cases before it actually causes rarification or disease of the bone; but when the latter does become involved, then I believe we have to do with our inveterate cases, and we have abundant reason for a continuation of the process of tissue reproduction. The thin, bony walls become so rarefied that the marrow spaces are open and the ethmoid cells become involved, and then we have, and then only, the condition which Woakes declares always exists—namely, diseased bone producing œdematous tissue for the formation of polyps.

The evident clinical deduction from all the foregoing is plainly that the sooner we get rid of the polyp the better; secondly, in our more chronic cases, if we can get rid of the whole diseased portion of the bone we shall have done the best we can for our cases. Thus, the latest laboratory work confirms what we almost empirically have been led to advise and to perform—namely, the removal of the anterior end, and sometimes of the larger portions, of the middle turbinate body.

PHANTOM TUMOR IN A GIRL OF TWELVE YEARS.*

By D. ERNEST WALKER, M. D.

THE following case is of interest because of the age of the patient, the situation of the tumor, and the manner of its formation, and from a diagnostic point of view:

On July 30, 1897, the writer was called to see a slender, undeveloped girl not quite twelve years old. Her family history was good, but presented a neurotic element in two males, one of whom had epilepsy. She had always been a healthy, vigorous child, and had been under the writer's observation at times since 1888. She had not begun to menstruate. The previous day she had eaten freely of unripe apples and had gone bathing immediately afterward. She was suffering apparently from intestinal indigestion and colic. The tongue was furred and the bowels were constipated. The pulse and temperature were normal, and there was no vomiting. There was some tenderness in the right iliac region. All symptoms disappeared after a thorough clearing of the intestinal tract.

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* Read before the Society of the Alumni of the City (Charity) Hospital, December 8, 1897.

On September 4th, being again called, the writer found almost the same condition, except that she had a temperature of 102° F., with marked tenderness in the region of the vermiform appendix. This attack followed the ingestion of some chocolate candies. A catarrhal appendicitis was strongly suspected, but the temperature and tenderness disappeared after the bowels had been thoroughly evacuated and the digestion regulated. The patient was discharged on September 6th, with instructions as to the diet and bowels.

On the morning of September 10th, I was called again and found that she had been awake and suffering all night from pain in the abdomen, which was spasmodic in character and most marked in the pelvis. She vomited everything ingested, but the vomiting did not seem wholly involuntary. There was no special tenderness in the iliac region. The abdomen was rather tense and was tympanitic all over, but it was not much distended. There was no rise of temperature or acceleration of the pulse. She had eaten no indigestible matter, but the bowels were again constipated despite instructions. Urination was rather free and frequent. A dose of castor oil given the previous night had been rejected. Bearing in mind the former attacks, I ordered a saline cathartic, to be followed if rejected by an enema. A simple opiate was directed to be given later for pain if necessary. I then left, promising to call later. The cathartic was rejected and the enema had no effect. At 5 P. M. the vomiting and pain had not abated; the opiate had given no relief, if any had been retained. On making an examination the external genitals were found undeveloped and normal. A sound showed the vaginal canal unobstructed. The finger in the rectum revealed a few scybalous masses of fæces, and, strange to say, a body of about the size and shape of a four months' gravid uterus could be felt in the pelvis. This body seemed to be a perfect uterus in shape and position, and could be plainly felt between the finger in the rectum and the other hand on the abdomen by exercising considerable pressure. No other body similar to a uterus could be made out.

Here, then, was an interesting condition presenting several possibilities—viz., (1) a gravid uterus, (2) a uterus containing catamenial fluid, (3) fæcal matter in the sigmoid flexure, (4) appendicitis or some other involvement of the intestines occupying an unusual position, (5) some neoplasm of uterus or bladder, or a displaced kidney, (6) a phantom tumor.

An examination of the breasts and external genitalia excluded a gravid uterus. The undeveloped condition, together with a patulous vagina, rendered retained menses very unlikely. The good general condition, with normal pulse and temperature, seemed sufficient to exclude appendicitis or any other intestinal trouble which could cause so much local pain and disturbance. The same could be said of any neoplasm or a displaced kidney, especially since the urine was normal and free. Two things were then left for consideration—a collection of fæces and a phantom tumor. From the previous constipation and the scybala found in the rectum the trouble seemed to be caused by fæces, but the abdomen was tympanitic over the site of the tumor and no bogginess could be made out by the rectum. It seemed very improbable that she should be able so perfectly to simulate a gravid uterus, since she knew nothing about such an organ—or, at any rate, nothing about its size, shape, or position, whatever she had been told of the expected approach of menstruation. As she could not or did not retain anything by the mouth, an oxgall enema was directed. This was to be repeated in an hour if necessary. This was about 5.30 P. M. At 10 P. M. the pain and vomiting were as severe as ever, though the bowels had moved freely. Another rectal examination showed the tumor unchanged, and five grains of asafœtida were ordered to be given every three hours if necessary, as the case seemed to be one of phantom tumor. Next morning the patient was bright and cheerful, having slept all night on one pill. The pain had disappeared and so had the tumor. The asafœtida was continued three times daily for two or three days, and in addition she was put on a general tonic. She has had no trouble since, and to-day, three months afterward, she is perfectly well.

Aside from the neurotic element in the family, the principal ætiological factors seem to have been disordered nutrition and an excited imagination, brought about by some stories she had heard concerning the expected approach of menstruation. What these stories were, or whether they included anything concerning pregnancy, was not ascertained.

As to the manner in which such a tumor was formed, the most plausible explanation seems to be that which accounts for some cases of apparently diseased uterine annexa which are cleared up, even after a vaginal examination, only by anæsthesia. The writer can recall several such cases. In these there is a fixation of the pelvic contents by the spasmodic action of all the adjacent muscles combined.

The diagnostic interest of this case rests chiefly on its connection with the previous history, and the close resemblance of the symptoms to the attacks of colic and indigestion, with a few accompanying symptoms of appendicitis. With a rapid pulse and slight rise of temperature one would have been tempted to propose operation. In such an event, however, anæsthesia would have cleared up the diagnosis.

240 West Forty-sixth Street.

Therapeutical Notes.

Guaiacol in the Treatment of Whooping-cough.—Chateaubourg, cited in the *Centralblatt für die gesammte Therapie* for February, recommends the following formula:

℞ Guaiacol, } each.................. 1 part;
Eucalyptol, }
Sterilized olive oil.................. 10 parts.

M. 2.5 cubic centimetres to be injected subcutaneously every day.

Pills for Amenorrhœa.—The *Centralblatt für die gesammte Therapie* for February attributes the following formula to Oesterlen:

℞ Myrrh, Aloes, Reduced iron, } each	75 grains;
Extract of valerian	a sufficiency.

M. Divide into 120 pills, to be kept in powdered cinnamon. Dose, five pills three times a day.

Ichthyol in the Treatment of Ulcers of the Leg.—Elden (cited in the *Gazette hebdomadaire de médecine et de chirurgie* for February 3d) recommends minute cleansing of the ulcer, asepsis, cauterization with nitrate of silver, and boric-acid dressings. Then, when the ulcer has begun to contract, he would employ the following ointment, to be applied fresh daily:

℞ Carbolic acid	30 grains;
Boric acid	150 "
Powdered camphor	130 "
Ichthyol	300 "
Oil of sweet almonds	150 "
Zinc ointment	1,500 "

M.

Erythrol Tetranitrate in the Treatment of Angina Pectoris.—James Adam, M. A., M. B. (*British Medical Journal*, February 12th), records the case of a man. twenty-nine years old, who had pains in the præcordium and down the left arm, which seemed to have been precipitated by an attack of influenza. They were severe during the night or on slight exertion, and caused him great anxiety. The man "looked his years," was somewhat anæmic, and had decided arcus senilis and an intermittent pulse, but no noticeable rigidity of the radial arteries. The heart was not enlarged, but there was a soft systolic murmur at the base and extending down the sternum. Sodium salicylate, liquor ammonii acetatis, ammonium bromide, potassium iodide, amyl nitrite, and nitroglycerin were tried, but without effect. Then half-grain erythrol tablets were ordered, one to be taken three times a day, and prompt relief followed.

Protargol in Ophthalmology.—In a paper read before the Paris Academy of Medicine (*Wiener klinische Rundschau*, February 6, 1898) Darier advises the substitution of protargol for silver nitrate in all cases, because it causes no pain or irritation when applied to the eyes, its solution keeps well, and its bactericidal action is remarkable. Another important property is that in solution it is not precipitated by the chlorides, alkalies, sulphur compounds, or albumin, and it may be combined in a most useful way with cocaine solutions. After considerable experience with the new silver compounds, Darier is convinced that protargol has many advantages over the others. He has never seen such rapid recovery in severe cases of catarrhal conjunctivitis as after the use of a ten-per-cent. solution of protargol, and this took place without the pain which follows the use of silver nitrate or that of argentamine. In blepharitis and blepharocystitis the following ointment is recommended:

℞ Protargol	90 grains;
Zinc oxide, Starch, } each	60 "
Vaseline	2 ounces.

M.

In the treatment of granular conjunctivitis its use gives as good results as that of argentamine does. Three cases of dacryocystitis treated with protargol injections did well, the purulent discharge disappearing in a few days.

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Edited by Frank P. Foster, M. D.

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THE SHIP ISLAND QUARANTINE STATION.

On January 20th the senate committee on public health and national quarantine was directed by the senate to investigate and report upon the question of whether it was advisable to remove the quarantine station from Ship Island to some other point in the Gulf of Mexico, and authority was given to the committee to prosecute its inquiries by means of a subcommittee which was empowered to sit during the sessions of the senate at such times and places as might be thought necessary, with power to send for persons and papers. Accordingly, a subcommittee consisting of Senators Vest, Gallinger, McEnery, and Mallory met in Biloxi on February 10th and invited everybody who had any knowledge bearing upon the question to appear and testify.

The committee's report was presented to the senate in due time and has now been printed. Twelve witnesses were examined. Five of them were physicians, including Dr. Alexander C. Smith, the Marine-Hospital Service officer in charge of the Ship Island station, and four Biloxi practitioners; two of them were druggists of the place; and the others were a bank president, the Biloxi collector of customs, a civil and hydraulic engineer, a ship-chandler, and a Ship Island pilot. In the opinion of all these witnesses, it appeared, the quarantine station ought not to be removed from Ship Island. Not one of the witnesses gave testimony tending to sustain the contention that the appearance of yellow fever on the coast in the summer of 1897 had been due to the proximity of the quarantine station to the mainland. On the other hand, all the witnesses who testified upon the point declared that the fever had not come from Ship Island and that the quarantine regulations at the station had been enforced rigidly and carefully.

The committee found that the distance between the mainland and the nearest point of Ship Island was about ten miles, and that every precaution possible had been taken by the officials at the station to prevent any communication between vessels in quarantine and the mainland. They found also that the Ship Island harbor was unquestionably the largest and best on the coast. As for Chandeleur Island, which had been urged as better for quarantine purposes, the committee found that it was twelve miles farther out in the gulf and was nothing but a sand bank exposed to the fury of storms. One of the witnesses, the collector of the port of Biloxi, said: "I wish to state, furthermore, that I visited the Chandeleur Island and was thoroughly familiar with it before the storm. It did then offer good protection for vessels in the harbor, since which time it has all gone to pieces. Every high tide washes all over the islands, and instead of one island there are now about forty, and that leaves the harbor without protection from the wind, and even no protection from the water, with the exception of a small territory at the northwest point of the island, where the lighthouse stands." The committee's report goes on to say that the quarantine buildings formerly situated on Chandeleur Island were totally destroyed by a storm some time after their establishment, and four lives were lost. There remained two other proposed situations to be considered, Petit Bois Island and Cat Island. Petit Bois Island was found to be nearer than Ship Island to the mainland, and its harbor, though a good one, not so large as that of Ship Island. The same objections were shown to apply in a still greater degree in the case of Cat Island.

After hearing the testimony the committee came to the conclusion that it was not expedient to abandon the buildings and other improvements upon Ship Island. The report concludes with this paragraph: "It may not be improper to state that, immediately prior to the visit of the subcommittee to Biloxi, a committee appointed by the State authorities of Mississippi had visited Ship Island and the other islands named, and after hearing testimony for some days reported to the governor of Mississippi that the quarantine station on Ship Island was not a menace to the health of the people upon the mainland; that the yellow fever had not come through said station to the coast in 1897; and that the charges made against the officials at Ship Island, of inefficiency and negligence in the discharge of their duties, were unfounded."

APPENDICULAR SYMPTOMS AFTER THE REMOVAL OF THE VERMIFORM APPENDIX.

An interesting discussion has recently been going on in the columns of the *Journal des praticiens* on certain appendicular symptoms not proceeding from the vermiform appendix itself. M. Demoulin contributed an article in which he said that in exceptional cases, after a first attack, the appendix might perhaps become separated from the cæcum, be destroyed by suppuration and sphacelus, and disappear entirely; and if in such cases new attacks of pain occurred, the appendix being no longer the cause, they must be due to adhesions about the cæcum, and by freeing the intestine we might bring about a cure.

This was criticised by M. Routier, who declared that such attacks never supervened in patients who had been operated on radically, that is, had the appendix removed. Whenever there were appendicular symptoms, he declared, there was a diseased appendix. But M. Richelot (*Journal des praticiens,* February 19th) relates the history of a case to prove that this statement of Routier's is not correct. In October, 1891, he performed laparotomy in a case of disease of the uterine annexa, but, as the uterus remained painful and the woman was impotent, he performed vaginal hysterectomy in June, 1893. The woman had good health for two years and a half after that, but in 1896 she had several slight attacks of inflammation of the vermiform appendix. She was operated on again in June, after she had been laid up in bed for two months with persistent pain and digestive troubles. The entire appendix was removed without difficulty. It was long and appeared only slightly diseased, but it was thickened and lumpy and contained little concretions.

After recovering from this operation the woman was able to be about until November, 1897. Then she began to complain of continual pain in the right iliac fossa and at times she had distention of the abdomen, peritonism, and efforts at vomiting. She wished to be operated upon again, but Richelot hesitated and was inclined to think her nervous. However, he says, it was easy to feel in the right iliac fossa an indurated vertical cord which was the seat of the pain. One might have taken it for the appendix, but the appendix was known to have been removed. He judged that the cord was a mass of adhesions. Thus assured that the patient was not exaggerating, he made an iliac incision on January 15, 1898, and found the cæcum everywhere adherent. The vertical cord that he had felt on palpation proved to be the anterior band of longitudinal muscular fibres of the intestine stretched by adhesion below. The adhesions were readily overcome, and after the operation the woman had no more pain in the iliac fossa.

M. Richelot thinks it is well established by this case and others that after the spontaneous disappearance of the appendix or its surgical removal there may still be pains which simulate, at least in some respects, those of appendicular inflammation, and that in such an event surgical intervention for the mere breaking down of adhesions is useful. However, in such a case one may well hesitate if the patient is nervous and given to exaggeration. Another point that he makes is that in a primary operation one should not too readily conclude, because he does not find the appendix at once, that it has been destroyed, especially if he is operating in the intervals between attacks.

MINOR PARAGRAPHS.

THE QUESTION OF THE TRANSFORMATION OF CALOMEL INTO CORROSIVE SUBLIMATE IN THE ORGANISM.

Lyon médical for February 20th says that this question was raised not long ago in the Paris Therapeutical Society. M. Patein stated that such a transformation in the presence of sodium chloride, accepted by Mialhe, was a fable; it was not true that calomel was changed into corrosive sublimate on contact with the alkaline chlorides or with the gastric juice. M. Pouchet added that the bromides and the chlorides were powerless to convert calomel into corrosive sublimate; such a change took place only on contact with the alkaline iodides. If it did take place in the presence of chlorides, he said, it could not be avoided by the patients' simply abstaining from salted articles of food; it would be necessary to remove all the chlorides from the organism.

GLOBULARIN AND GLOBULARRHETIN.

We learn by the February number of the *Centralblatt für die gesammte Therapie* that Mouson and Balestre have been investigating the therapeutical properties of globularin, a glucoside derived from *Globularia alypum,* and globularrhetin, a resinous decomposition product of globularin. They find that globularin resembles caffeine in its action. Large doses increase the flow of urine without rendering it albuminous. Globularrhetin stimulates the secretion of bile and gives rise to diarrhœa. In large doses it causes severe irritation of the intestinal tract.

THE ACTION OF ATROPINE ON THE SECRETION OF URINE.

Some observers have declared that atropine increased the amount of urine secreted, and others have stated that it diminished it. Lazaro and Pitini (*Archivio di farmacologia e terapia,* v; *Deutsche Medizinal-Zeitung,* February 3, 1898) have studied the question experimentally, and they find that the drug decreases the amount of urine, apparently by virtue of a paralyzing action on the terminations of the vagus.

CONGENITAL ABSENCE OF A PECTORAL MUSCLE.

At a meeting of the Section in Orthopædic Surgery of the New York Academy of Medicine Dr. Henry Ling Taylor showed a boy, six weeks old, that had been brought to him on account of asymmetry of the upper part of the chest in front. There was normal fullness of the right side, but the left pectoralis major was wholly wanting. The child moved both arms equally well. It was its mother's fifth child, and the others were normally developed.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 8, 1898:

DISEASES.	Week ending Mar. 1.		Week ending Mar. 8.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	10	3	9	5
Scarlet fever	163	18	182	9
Cerebro-spinal meningitis	1	0	2	0
Measles	..	..	..	..
Diphtheria	165	25	150	22
Croup	17	9	12	4
Tuberculosis	225	104	148	14

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending March 5, 1898 ·

Cholera—Foreign.

Bombay, India	Jan. 25–Feb 1		2 deaths.
Calcutta, India	Jan. 15–22		4 “
Madras, India	Jan. 22–28		2 deaths.
Singapore, India	Dec. 1–31		1 death.

Yellow Fever—Foreign.

Kingston, Jamaica	Jan. 1–31		2 deaths.

Plague—Foreign.

Bombay, India	Jan. 25–Feb. 1		927 deaths.
Formosa, Japan	Jan. 22–Feb. 3	14 cases.	

Small-pox—United States.

Mobile, Ala	Feb. 19–26	8 cases.	
Fair Oak, Ark	To March 1	5 “	
Evansville, Ind	Feb. 26	1 case.	
Royal Oak, Mich	Feb. 12–26	1 “	
Alamance Co., N. C	Feb. 25	1 “	

Small-pox—Foreign.

Hong Kong, China	Jan. 7–15	14 cases,	6 deaths.
Cienfuegos, Cuba	Feb. 13–20		9 “
Matanzas, Cuba	Feb. 16–23		2 “
Sagua la Grande, Cuba	Feb 12–19	220 “	10 “
Middlesborough, England	To Feb. 11	301 “	19 “
Bristol, England	Feb. 5–12	1 case.	
Tokyo Fu, Japan	Jan. 22–Feb. 3	1 “	
Awomori Ken, Japan	Jan. 22–Feb. 3	2 cases,	1 death.
Chiba Ken, Japan	Jan. 22–Feb. 3	3 “	
Fukushima Ken, Japan	Jan. 22–Feb. 3	9 “	2 deaths.
Hiroshima Ken, Japan	Jan. 22–Feb. 3	1 case.	
Miyazaki Ken, Japan	Jan. 22–Feb. 3	3 cases,	1 death.
Nagasaki Ken, Japan	Jan. 22–Feb. 3	1 case.	
Yamagata Ken, Japan	Jan. 22–Feb. 3	7 cases,	2 deaths.
Yehime Ken, Japan	Jan. 22–Feb. 3	7 “	
The Hokkaido, Japan	Jan. 22–Feb. 3	79 “	19 “

The New York Hospital Library has been closed, and the books have been transferred to the New York Academy of Medicine. The reason is understood to be that the space occupied by the library is needed for other hospital purposes.

Insanity on the Increase in Philadelphia.—The condition of the insane department of the Philadelphia Hospital recently reported by the grand jury is interesting in many ways. First, according to the report, the admissions to this department have increased eighty-five per cent. within the last ten years, while the proportion of the poor has decreased proportionately to the population and in point of actual numbers.

So crowded has this department become that 1,400 patients are accommodated in buildings intended for fewer than 900. In both the male and female departments additional quarters are being constructed, but they will accommodate only 100 or 150 more. Beds have had to be placed in the aisles and passageways to provide sleeping facilities.

In order to care for all the insane properly, the board of charities and correction have asked that the boroughs of Germantown, Frankford, and Roxborough be consolidated with Philadelphia.

The Effect of Drinking Boiled Water on the Spread of Typhoid Fever.—In Philadelphia there were 212 cases of typhoid fever reported for the week ending January 26th, and 141 cases for the corresponding week in February. This decrease in the number of new cases is believed to be due to the fact that the distribution of circulars in all portions of the city, asking that only boiled water should be used, is now pretty generally followed. The number of cases reported, however, is about two or three times as much as it should be under normal conditions of health.

The Eastern Medical Society of the City of New York.—At a special meeting, on Friday, March 11th, the order for the evening was to be as follows: Presentation of patients.—A Case of Bilateral Ophthalmoplegia, by Dr. Philip Meirowitz; A Case of Rhachitis with Interesting Features, by Dr. A. Hymanson; and A Case of Sporadic Cretinism, by Dr. A. E. Isaacs. Instruments and pathological specimens were to be exhibited, and Dr. A. Jacobi was to read a paper on Cholera Infantum, which was to be discussed by Dr. Henry Koplik, Dr. Joseph E. Winters, and Dr. Henry S. Dessau.

Columbia University.—It is stated that the medical school, the College of Physicians and Surgeons, is to have a chair of physiological chemistry, to be occupied probably by Professor Chittenden, of Yale University.

The Brooklyn Medical Society.—The *Brooklyn Medical Journal* for March states that officers for the year 1898 have been elected as follows: President, Dr. Peter Scott; vice-president, Dr. J. H. Droge; secretary, Dr. B. F. M. Blake; corresponding secretary, Dr. J. J. Bowen; treasurer, Dr. L. E. Meeker; librarian, Dr. E. A. Hatch.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Medicine, on Tuesday evening, the 8th inst., the following papers were to be read: The Relation of Bacteria to the Normal Alimentary Canal, by Dr. Herbert U. Williams, and Cardio-pulmonary Murmurs, by Dr. C. F. Hoover, of Cleveland.

The City Hospital Medical Society, of St. Louis.—At the last meeting, on Thursday evening, the 3d inst., Dr. H. Wheeler Bond was to present A Report on Two Cases of Urinary Calculi.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 5th inst., Dr. L. Bremer was to read a paper entitled Untoward Effects of the Iodides.

The Medical Society of the Missouri Valley.—The semiannual meeting will be held in Red Oak, Iowa, on Thursday, March 17th.

The Richmond Academy of Medicine and Surgery.—At the last regular meeting, on Tuesday evening, the 8th inst., a paper on Ingravescent Apoplexy was to be presented for discussion by Dr. L. B. Edwards.

Changes of Address.—Dr. F. T. Brown, to No. 14 East Fifty-eighth Street, New York; Dr. James P Glynn, to No. 326*a* Ninth Street, Brooklyn; Dr. Thomas F. Reilly, to No. 318 West One hundred and forty-first Street, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department. United States Army, from February 26 to March 5, 1898:*

A board of medical officers, to consist of BACHE, DALLAS, Colonel and Assistant Surgeon General; REED. WALTER, Major and Surgeon; MERRILL, JAMES C., Major and Surgeon; ARTHUR, WILLIAM H., Captain and Assistant Surgeon; and STARK, ALEXANDER N.. First Lieutenant and Assistant Surgeon, is constituted to meet at the Army Medical Museum Building in Washington, on Monday, May 2, 1898, at 10 o'clock A. M., for the examination of candidates for admission to the medical corps of the army.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Two Weeks ending March 5, 1898:*

KITE, I. W., Passed Assistant Surgeon. Detached from the Franklin and ordered to the Naval Hospital, Norfolk, Virginia.

LUMSDEN, G. P., Surgeon. Detached from special duty at Norfolk, Virginia, and ordered to the Franklin.

WARD, B. R., Passed Assistant Surgeon. Ordered to the Katahdin.

WIEBER, F. W. F., Surgeon. Detached from the Naval Hospital, Norfolk, Virginia, and ordered to the Miantonomoh.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending March 3, 1898:*

BANKS, C. E., Surgeon. Detailed as delegate to represent the service at the National Pure Food and Drug Congress. March 1, 1898.

KINYOUN, J. J., Passed Assistant Surgeon. Detailed as delegate to represent the service at the National Pure Food and Drug Congress. March 1, 1898.

BROWN. B. W., Passed Assistant Surgeon. To proceed to Birmingham, Ala., for special duty. February 25, 1898.

STEWART, W. J. S., Passed Assistant Surgeon. To proceed to Fair Oaks, Ark., for special duty. February 28, 1898.

PARKER, H. B., Assistant Surgeon. To proceed to New York for duty and assignment to quarters. March 2, 1898.

Board Convened.

Board convened to meet at Washington, D. C., March 2, 1898, for the physical examination of officer of the Revenue-Cutter Service. Surgeon C. E. BANKS, chairman, and Passed Assistant Surgeon G. T. VAUGHAN, recorder.

Appointment.

HERMAN B. PARKER, of Pennsylvania. commissioned as Assistant Surgeon. February 26, 1898.

Society Meetings for the Coming Week:

MONDAY, *March 14th:* New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); Lenox Medical and Surgical Society, New York (private); Harlem Medical Association of the City of New York; Gynæcological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society (private).

TUESDAY, *March 15th:* New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Society of the County of Kings. N. Y.; Baltimore Academy of Medicine.

WEDNESDAY, *March 16th:* Medico-legal Society; Northwestern Medical and Surgical Society of New York (private); Medical Society of the County of Allegany. N. Y. (quarterly); New Jersey Academy of Medicine (Newark).

THURSDAY, *March 17th:* Medical Society of the Missouri Valley (Red Oak, Iowa); New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private); City Hospital Medical Society of St. Louis; Atlanta Society of Medicine.

FRIDAY, *March 18th:* New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynæcological Society.

Births, Marriages, and Deaths.

Married.

BAYLES — WHITTLE. — In Scooba, Mississippi, on Wednesday, March 2d, Dr. Eugene Bayles, of Eastabuchie, Mississippi, and Miss Vadil Whittle.

COMFORT — BERSON. — In Rochester, on Wednesday, March 2d, Dr. Clifford Vinal Comfort and Miss Frances Berson.

Died.

TORREY.—In Brooklyn, on Friday, March 4th, Dr. William S. Torrey, in the thirty-sixth year of his age.

Letters to the Editor.

THE PREPARATION OF NUCLEIN.

1513 ARCH STREET, PHILADELPHIA, *February 12, 1898.*

To the Editor of the New York Medical Journal:

SIR: The communication from Dr. Charles Lyman Greene, of St. Paul, Minn., in the current issue of the *Journal,* seems to require a reply from me concerning the preparation of the nuclein product with which my name is associated, and it affords me great pleasure to comply with his request. The various steps in the development of this product, together with much interesting and instructive data bearing upon its clinical virtues, have been published in different medical journals as follows: *American Therapist,* February, 1894; *New York Medical Journal,* March 24 and September 29, 1894; and *Medical World,* March and April, 1895, the latter being subsequently republished in the *Alkaloidal Clinic.*

Stock is prepared by macerating separately in water thyreoid and thymus glands, by which is obtained a product insoluble in alcohol. The macerated glands are then removed and submitted to artificial digestion, and the filtrate is set aside to "cure," which requires a period varying from three to ten days, a temperature of 90° F. being constantly maintained. The product obtained by artificial digestion is preserved in alcohol (diluted), and as soon as the macerated products have reached the proper stage in curing all are combined in one solution, diluted alcohol being used to control further chemical activity. Within two weeks all traces of phosphorus have disappeared, due, probably, to the chemical changes taking place between the product resulting from artificial digestion and the elementary substances obtained by maceration in water. The chemical combination thus formed is then fixed by further increasing the alcoholic strength, certain chemical and physiological tests being employed to regulate or standardize the finished product. The dose is not an arbitrary matter, and may be increased or diminished as occasion demands. The aim should be to produce by its administration in properly selected cases an "equivalent," when compared with the usual or ordinary treatment of the disease under observation.

These data comprise substantially all that will be demanded by a competent chemist to enable him to prosecute the work, and I feel perfectly frank in giving it to the profession, since it covers the instructions given to the chemist who succeeded in elaborating an active remedial agent from a source whose virtues were more or less conjectural, if not problematical—I refer to the thyreoid gland.

I might record here some interesting incidents which occurred during the two or more years occupied with the experimental work. Thus, we found that the activity of the watery solutions was entirely lost by evaporation; also, that during a certain period in the curing process this product was actively poisonous, and that it was destroyed by strong alcoholic solutions. In fact, we were on the point of abandoning the work several times, owing to the many obstacles discovered from time to time. The inducements to continue our investigations centered upon the remarkable progress that was then making in the treatment of myxœdema by the exhibition of both desiccated and raw thyreoids and the almost uniform failure of the glycerin extracts. There was, however, in addition to this innovation in medical practice, another factor which appeared to be worthy of special investigation—namely, the discovery of the actively poisonous substance in the solution obtained by maceration, together with the idea of identifying it with a substance similar to it clinically, which causes the profound depression so frequently observed in using desiccated thyreoids. My chemist succeeded in disposing of this poisonous element by the curing process, but lack of funds has prevented us from completing our work by isolating it.

Another important observation made during these experiments which should be mentioned in this connection relates to a peculiar action which this nuclein product has upon the white blood-corpuscles, increasing in a marked degree the number of free granules. Thus, a patient suffering from anæmia, malarial disease, or general debility takes medicinal doses for a few days, when microscopical examination of the blood shows that the free granules have been greatly increased. It was Professor Müller, of Vienna, who first pointed out the possible significance of these granules, which he named *Hämokonien* or *Blutstäbchen* (blood-dust), and in a recent issue of the *Johns Hopkins Hospital Bulletin* may be found an extended account of the researches undertaken to confirm or disprove the statements of the German professor. Suffice it to say that these investigations not only confirmed the existence of the granules in both health and disease, but the authors demonstrated that these granules exerted an important influence upon bacterial life. When blood-serum was filtered—by which the granules are removed—the *Bacillus typhosus* and cholera spirillum increased at a rapid rate, although the unfiltered serum treated in precisely the same manner was found to be absolutely sterile at the end of two hours *and remained so.* This scientific evidence is confirmatory of the allegations made for nuclein in aborting typhoid fever.

JOHN AULDE, M. D.

Proceedings of Societies.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Stated Meeting, December 8, 1897.

The President, BROOKS H. WELLS, M. D., in the Chair.

Phantom Tumor in a Girl of Twelve Years.—Dr. D. E. WALKER reported a case of this kind. (See page 360.)

The President asked if, in making the examination bimanually, he had not felt any other body, and if the tumor might not have been caused by an irregular contraction of one of the recti muscles.

Dr. Walker said he could not feel any body apart from the one which he mentioned in the paper. He examined very carefully the second time, because he thought probably he had made a mistake at first, as it was an unusual situation for anything except the uterus or a collection of fæces. He could not examine by the vagina because the girl was undeveloped.

The President said he had never seen a phantom tumor in a young girl, though he had seen three instances of pseudo-cyesis in older women. One case was that of a woman of forty-four years who had already borne seven children, then, after an interval of sterility, had, as she supposed, become pregnant. Her physician agreed with her and told her to get ready for her confinement. She grew steadily larger, milk appeared in the breasts, and she had what she thought were fœtal movements. Her physician was called for what seemed labor pains; she had hard pains and still no progress; finally, the speaker was sent for; on arrival he found the nurse there and the doctor, and the woman groaning and grunting in the next room. He felt a little suspicious, as the shape of the abdomen was not exactly that of pregnancy, and on examination found an atrophic uterus, and was obliged to tell her that she was not pregnant. She was so positive about it that she became angry and said, "We did not send for you to have you come and joke with us." The two other cases were also in women near the menopause.

Dr. Walter B. Johnson asked how long the tumor remained in the abdominal cavity.

The President stated that it disappeared in a short time.

Dr. Johnson asked if, in the case reported by Dr. Walker, there had been a considerable amount of fæcal matter passed shortly before the tumor disappeared.

Dr. Walker said there was a good movement of the bowels; he did not see the amount of the fæces that was passed; it had been thrown out when he returned to the house.

Dr. Johnson said that a tumor of the size described, situated in the abdominal cavity, apparently having no connection whatever with any abdominal muscular tissue, would be difficult for any neurotic or other patient to simulate. His understanding of a phantom tumor was that it was generally, as in the president's case, a general abdominal enlargement, due to peculiar contractions of the muscles of the abdominal walls, but this was a tumor within the abdominal cavity, presumably among the mass of intestines. It could not have been the uterus itself. The uterus could not have increased in size in that manner temporarily.

Dr. Alvah M. Newman asked what the condition of the bladder was.

Dr. Walker stated that she had no difficulty in passing the urine. The urine was abundant and clear, and, as stated in the paper, there was no retention. He examined her twice by the rectum and could feel this body between his fingers. He made out the shape of the tumor and apparently the horns of the uterus. He thought it was fæces from the history of the case, and used an oxgall enema and got a good movement of the bowels, but did not clear up the tumor. Then he gave asafœtida and the tumor was gone the next morning, without further movement of the bowels and without her having passed any more urine than before.

(To be concluded.)

Book Notices.

Diseases of the Stomach. Their Special Pathology, Diagnosis, and Treatment, with Sections on Anatomy, Physiology, Analysis of Stomach Contents, Dietetics, Surgery of the Stomach, etc. By John C. Hemmeter, M. B., M. D., Philos. D., Clinical Professor of Medicine at the Baltimore Medical College, etc. In Three Parts. With many Original Illustrations, a Number of which are in Colors, and a Lithograph Frontispiece. Philadelphia: P. Blakiston, Son, & Co., 1897. Pp. vii–17 to 788. [Price, $6.]

The appearance of a work by an American author arouses an interest rather more than patriotic, an interest having its origin in the fact that the point of view of such a one is in many respects similar to our own, that he sees the same varieties of disease acting under the same conditions of life, and that, therefore, his experience will be more helpful to us than the experience of a foreigner would be, and this interest is the keener when the field of such work is one in which but little has been published by our countrymen.

All these conditions prevail in the present instance to make the book now at hand peculiarly attractive. Much good work has been done on this side of the water, both by surgeons and by medical men, in the study of diseases of the stomach; yet, so far as we can call to mind at present, this and a work of similar scope very recently published by Einhorn are the only ones on the subject by American authors.

The book is very conveniently divided into three parts. The first deals with anatomy and physiology and with methods of diagnosis; the second, with treatment and materia medica; and the third, with the diseases of the stomach as they present themselves clinically. Part I is very complete, and we wish to express an unqualified approval of the tendency that is shown to emphasize the simple and more practical diagnostic methods. So much of the advanced work of the present day is done in hospital and laboratory that the limitations of the office and the bedside often seem to be forgotten. Those methods that require special training and costly instruments, however valuable their indications may be, are quite beyond the reach of the great majority of practitioners and patients. They are therefore little known and soon forgotten, while methods less accurate perhaps, but more readily applied, become the necessities of daily practice. The method of duodenal intubation and the use of the intragastric bag might perhaps be considered as belonging to the former class, were it not that they are intended rather for the study of physiological and pathological conditions than for clinical diagnosis. If they are thus used, we may expect many facts of practical clinical value to be brought to light. The section on quantitative chemical analysis of gastric contents and the chapters on the condition of the blood and urine in gastric diseases and on the gases of the stomach, which have been written by Dr. Edward L. Whitney, in no way fall below the standard of the rest of the book.

Part II, therapy and materia medica, devotes much space to dietetics, and contains a great fund of valuable information upon a subject far too little understood. The principles of dietetic treatment in gastric disease are discussed, and methods of cooking and diet lists in abundance are given. We doubt, however, if all readers will agree to the quotation in this connection from Dr. William Roberts, that "so close and true are the sympathies of the palate with the stomach and the rest of the organism, that its dictates are entitled to the utmost deference as those of the rightful authority in the choice of food."

The dietetics of alcohol and alcoholic beverages is the subject of a short but valuable chapter, and considerable attention is also given to mineral waters, and their use and abuse in diseases of the stomach. The remainder of the section is devoted to the discussion of medicinal and surgical treatment and of the effect of gastric diseases upon the rest of the organism.

Part III treats of the diseases of the stomach from a clinical standpoint, and is by no means the least valuable part of the book. Much space is justly devoted to diagnosis, and the treatment is divided very conveniently into prophylactic, dietetic, and medicinal. Those derangements of the gastric function that, while not serious, are so very annoying, are here fully discussed, and what the author says will be read with interest by many who have found the usual text-books so unsatisfactory on this subject.

The index is most systematic and complete and adds greatly to the usefulness of the book, while the arrangement of the bibliography by subjects, each part being put at the end of the chapter to which it relates, is a happy one. But the incorporation of the minor references in the text detracts much from the pleasure of reading, for the train of thought is constantly interrupted by these long parentheses. There may be advantages in this method, but we fail to see them; on the contrary, it seems to us a most annoying fault in an otherwise attractive volume.

Pathological Technique. A Practical Manual for the Pathological Laboratory. By Frank Burr Mallory, M. D., A. M., Assistant Professor of Pathology, Harvard University Medical School, etc., and James Homer Wright, A. M., M. D., Director of the Laboratory of the Massachusetts General Hospital, etc. With One Hundred and Five Illustrations. Philadelphia: W. B. Saunders, 1897. Pp. 11 to 397. [Price, $2.50.]

Pathologists, workers in laboratories, and progressive practitioners of medicine in this country have long felt the need of a reliable work in English upon pathological technics, and to meet this requirement this volume has appeared at an opportune period. Part I deals with the conduct of post-mortem examinations, and is an excellent and detailed description of the most approved methods.

A large portion of the work, 136 pages comprised in Part II, is devoted to the principles of bacteriological analysis. In so far as such limited space permits, this extensive subject is very ably presented. Following the description of apparatus and culture media, the strictly practical character of the work is maintained in the section on bacteriological examination at autopsies. In the sections devoted to the methods of staining bacteria in tissues and bacteriological diagnosis a good deal of descriptive bacteriology is required and the facts presented are well chosen, concisely stated, and very fully illustrated from standard works. Possibly a little space and distinctness of plan is lost in separating the methods of demonstration of pathogenic bacteria from the full descriptions of these germs. Thus, we find the biology of the gonococcus in one chapter, and the procedures for its identification in another.

In the 180 pages devoted to histological methods, nearly all the important details of this subject are collected, and, while this part does not by any means constitute an exhaustive work for reference, it very ably meets the ordinary requirements of the laboratory. This chapter, being well abreast with recent advances in this department, will be found of great value to the majority of workers who have not time to hunt through Lee's more extensive and technical *Microscopist's Vade-mecum.* We gravely doubt the wisdom, however, of the encroachment upon the department of clinical microscopy, in which there are already several superior text-books, and believe that the space thus diverted had better have been turned to account in more minute details of strictly histological methods.

Of minor inaccuracies or omissions the work is very free, and, offering as it does a large survey of the details of general pathological technics, the volume deserves a place, as it has already largely found one, in all American laboratories.

La responsabilité médicale. Secret médical—Déclarations de naissance—Inhumations expertises médico-légales. Par P. Brouardel, Professeur de médecine légale et Doyen de la Faculté de médecine de l'Université de Paris, etc. Paris: J.-B. Baillière et fils, 1898. Pp. xii–451.

This volume contains lectures on the French laws regulating the legal responsibility of the physician and the practice of medicine, delivered before the students of the medical school of Paris by Dr. P. Brouardel. It is likely that, while of great value to every French practitioner, it will interest, outside of that country, those physicians only who are especially interested in the study of medico-legal questions.

The first portion of the work is devoted to an exposition of the general theory of medical responsibility. The succeeding divisions treat of medical confidences, declarations of birth, suppression of the civil condition of the newborn, and expert testimony.

The book is written in the author's usual delightful style. Each subject is presented in such a clear and simple manner that its perplexities disappear as if by magic under the persuasive force of the learned dean's logic.

Essentials of Bacteriology. Being a Concise and Systematic Introduction to the Study of Micro-organisms for the Use of Students and Practitioners. By M. V. Ball, M. D., Bacteriologist to St. Agnes's Hospital, Philadelphia. Third Edition, revised. With Eighty-one Illustrations, some in Colors, and Five Plates. Philadelphia: W. B. Saunders, 1897. Pp. xvi–17 to 218. [Price, $1.]

For a very small introductory treatise on the principles of bacteriology this little book must be considered a successful production. Like most works of its class, it presents the usual mass of facts in very concise form, and like them abounds in minor inaccuracies and deficiencies. In most particulars good judgment is used in the selection of the details of the subject which may be considered a proper field for such a book. The chief fault is undoubtedly the attempt to say something on every department in the science of bacteriology, and some of these hasty references can not but convey false impressions, especially to a student, such, for instance, as the sketch of the method of making a bacteriological examination of the blood. Whatever its merits, the scope of usefulness of such a limited treatise on bacteriology must be much smaller than that of most quiz-compends. All laboratory workers need more explicit information. Yet the work now appears in its third edition, embodying some minor additions to the earlier text.

Outlines of Rural Hygiene. For Physicians, Students, and Sanitarians. By Harvey B. Bashore, M. D., Inspector for the State Board of Health of Pennsylvania. With an Appendix on the Normal Distribution of Chlorine, by Professor Herbert E. Smith, of Yale University. Illustrated. Philadelphia: The F. A. Davis Company, 1898. Pp. 84.

The little book before us will prove most welcome. It is very far from being elaborate or technical; in fact, it is even meagre, but it is comprehensible and thoroughly sound, and, dealing clearly with the subjects of rural drainage, water supply, and ventilation (of the defects of which we are but too well aware), can not but be an agent for good. It is the sort of book which any one of intelligence may comprehend and, although the more erudite will scarcely be content with its limitations, none will be misled by its teachings.

Clinical Methods. A Guide to the Practical Study of Medicine. By Robert Hutchison, M. D., M. R. C. P., Demonstrator in Physiology, London Hospital Medical College, and Harry Rainy, M. A.; F. R. C. P. Ed., F. R. S. E., University Tutor in Clinical Medicine, Royal Infirmary, Edinburgh. With One Hundred and Thirty-seven Illustrations and Eight Colored Plates. Philadelphia: Lea Brothers & Co., 1897. Pp. xii–552. [Price, $3.]

The value of this work is considerable. In plan and execution it affords an excellent presentation of those methods of case examination which go to produce diagnosis.

The first chapter is general in its scope and describes the efficient methods of history-taking. The second chapter deals with general condition and appearances, and may be commended for what it describes—namely, those points of appearance, often small in degree, which the trained eye at once detects and which so often are valuable clews to a diagnosis. The so-called "snap diagnosis" from general appearances alone is clearly to be deprecated, but nobody can practise medicine without learning how much these signs go to aid his conclusions, and how much such things as attitude and expression help in his estimation of disorder. Following this are chapters upon the various systems or regions of the body in which are discussed in detail the symptoms, chiefly objective, which may be found in them and those chemical, microscopical, and physical methods of examination which concern the various parts. The concluding chapters, upon the clinical examination of children, the examination of pathological fluids, and clinical bacteriology, are of much value.

The work will certainly meet with appreciation, for it is of quite the sort which the clinical inquirer will find to be depended on; it does not deal in the obscure or the undetermined, but it is an able presentation of clinical facts and clinical methods of investigation, while not trespassing unduly upon the larger field known commonly as medical diagnosis.

A Text-book of the Diseases of Women. By Henry J. Garrigues, A. M., M. D., Professor of Gynæcology and Obstetrics in the New York School of Clinical Medicine, etc. Containing Three Hundred and Thirty-five Engravings and Colored Plates. Second Edition, thoroughly revised. Philadelphia: W. B. Saunders, 1897. Pp. 728. [Price, $4.]

The author states that his aim has been to write a practical work, useful alike to undergraduates and to graduates, especially to such as have not the time for special study or preparation on special subjects. He also states that he has aimed to give American modes of treatment and American ideas.

This is the work of one who has evidently laid his plan with great care, comprehending much that is not ordinarily found in treatises on gynæcology, and it is backed up by an abundant experience. As a text-book it is too advanced for most undergraduates, and there will be many readers among the graduates to whom the author appeals who will have some difficulty in following him into the broad fields which he has so perseveringly cultivated.

It seems to us to be rather a book for the experienced in gynæcology.

The style is clear for the most part; but an occasional paragraph or chapter reveals the fact that the writer is not using his mother-tongue (*e. g.*, the chapter on abnormal menstruation). It is questionable whether in a practical book like this so much attention should be devoted to the consideration of embryology and anatomy. These subjects and also the very elaborate discussion of neoplasms might be left with profit, in our judgment, to the works which deal specifically with such themes.

There is no lack of originality in the treatment of those subjects which are essentially gynæcological; one does not find here a mere reflex of the opinions of others, and the judgment which is displayed is sound and vigorous.

The work of Kelly upon the bladder and ureters is described, but a footnote states that its originality has been denied by Pawlik and his followers. It fails to state that Pawlik's allegations have been denied by Kelly and others who have professed to be familiar with the controversy.

In the matter of the Trendelenburg posture also, one of the most useful additions to the technics of abdominal surgery, we fail to notice any reference to Willy Meyer and Krug, whose share in introducing and popularizing it was so considerable.

That a second edition of this work should follow the first so quickly in these days when works of this character are so numerous must be highly gratifying to the author and no slight recompense for arduous work.

Transactions of the Royal Academy of Medicine in Ireland. Volume XV.

The present volume of *Transactions* is somewhat larger than that of last year, and maintains the high standard that we have been led to expect by the previous publications of the body it represents. The most noticeable articles are the address on The Development of the Brain, by William His, and a series of pictures with reference to the X ray in diagnosis, presented by W. S. Haughton.

Elements of Latin. For Students of Medicine and Pharmacy. By GEORGE D. CROTHERS, A. M., M. D., Teacher of Latin and Greek, St. Joseph, Mo., and HIRAM H. BICE, A. M., Instructor in Latin and Greek, New York. Philadelphia, New York, and Chicago: The F. A. Davis Company, 1898. Pp. xii–242.

THIS book may be commended to the student of medicine or pharmacy who desires to acquire, with a minimum expenditure of time, a fairly intelligent knowledge of the terms used in medicine and pharmacy. In general arrangement it resembles the elementary Latin books in use in the schools. The main points of difference are the omission or abbreviated treatment of what is not essential for the special student's practical purposes, and the use of simple sentences and of a vocabulary consisting of medical and pharmaceutical terms in the exercises. There is a useful chapter on prescription-writing. The introduction of numerous anatomical and pharmaceutical notes and of a table of anatomical proper names is objectionable, as the size of the book is unnecessarily increased and the information there given should be acquired in other departments of the student's course of study.

BOOKS, ETC., RECEIVED.

Diseases of Women. A Text-book for Students and Practitioners. By J. C. Webster, B. A., M. D. (Edin.), F. R. C. P. Ed., Demonstrator of Gynæcology, M'Gill University, etc. Illustrated with Two Hundred and Forty-one Figures. Edinburgh and London: Young J. Pentland. New York: The Macmillan Company, 1898. Pp. xxii–688. [Price, $3.50.]

The Essentials of Experimental Physiology. For the Use of Students. By T. G. Brodie, M. D., Lecturer on Physiology, St. Thomas's Hospital Medical School. London, New York, and Bombay: Longmans, Green, & Co., 1898. Pp. xiv–231.

How to Become a Trained Nurse. A Manual of Information in Detail. With a Complete List of the Various Training Schools for Nurses in the United States and Canada. Edited by Jane Hodson, Directress of Nurses, State Hospital, Fountain Springs, Pennsylvania, etc. New York: William Abbatt, 1898. Pp. 11 to 265.

The Broom of the War God. A Novel by Henry Noel Brailsford. New York: D. Appleton and Company, 1898. Pp. 337.

Die Untersuchung unserer wichtigsten Nahrungs- und Genussmittel. Von Dr. med. C. Beier, Bauske (Curland). Leipzig: C. G. Naumann, 1898. Pp. viii–147.

Die Erysipel-, Erysipeltoxin- und Serumtherapie der bösartigen Geschwülste. Von Dr. Rudolf Eschweiler in Bonn. Leipzig: C. G. Naumann, 1898. Pp. 138.

Die pathogenen Spaltpilze. Von Dr. Bruno Schürmayer, Hannover, früher Assistent am hygienischen Institut der Universität u. an der chirurg. Klinik von Professor Schinzinger, Freiburg. Mit 77 Abbildungen im Text und 2 Tafeln in farbigem Chromodruck. Leipzig: C. G. Naumann, 1898. Pp. viii–351.

Transactions of the Medical Society of the State of North Carolina. Forty-fourth Annual Meeting, held in Morehead City, N. C., June 8, 9, and 10, 1897.

Die bacteriologische Technik. Von Dr. Bruno Schürmayer, Hannover, früher Assistent am hygienischen Institut der Universität u. an der chirurg. Klinik von Professor Schinzinger, Freiburg. Mit 108 Abbildungen im Text und 2 Tafeln in farbigem Chromodruck. Leipzig: C. G. Naumann, 1898. Pp. viii–271.

The Cure of Inguinal Hernia in the Male. By Henry O. Marcy, M. D., of Boston. Read at the Forty-second Annual Meeting of the Ohio State Medical Society, in Cleveland, May 19, 1897.

Transactions of the Medical Society of the District of Columbia, from March, 1896, to January, 1897.

Transactions of the College of Physicians of Philadelphia. Third Series. Volume the Nineteenth.

The Scientific Proceedings of the Royal Dublin Society. July, 1897. Volume VIII. Part 5.

The Cure of Hernia. By Henry O. Marcy, M. D. [Reprinted from the *Boston Medical and Surgical Journal.*]

Personal Service as the Especial Exponent of a Great Profession. By Henry O. Marcy, M. D. [Reprinted from the *Boston Medical and Surgical Journal.*]

Peculiarities of the Surgical Diseases and Injuries of the Neck. By Edmond Souchon, M. D., of New Orleans. [Reprinted from the *Journal of the American Medical Association.*]

Clinical Tests of New Remedies. By Seth Scott Bishop, M. D., of Chicago. [Reprinted from the *Laryngoscope.*]

A New Method of Nerve Resection for Amputation-Neuroma. By N. Senn, M. D., of Chicago. [Reprinted from the *Yale Medical Journal.*]

Lumbar Nephropexy without Suturing. By N. Senn, M. D. [Reprinted from the *Journal of the American Medical Association.*]

A Case of Hysterical Dysphagia. By Llewellyn Eliot, M. D., of Washington, D. C. [Reprinted from *Medicine.*]

Miscellany.

The Quarantine Convention in Mobile.—Speaking of the resolutions passed by the Mobile convention, the *New Orleans Medical and Surgical Journal* for March says:

> Those resolutions were merely a compromise. One proof of it is that they are being interpreted as being in their favor by those on either side of the burning questions of the day.
>
> It may be asked, what were the burning questions? That is what we want to tell, and in so doing we shall tell only the truth and *as much of the truth as we know.* There was so much said, or suspected, about how the convention was formed, why it was called, and by what process the committees were composed, that we confess our inability to tell the *whole truth.*
>
> The first burning question was as to whether the South desired national control of quarantine and sanitation. The State's rights men were not absent and some of them were quite eloquent, but we believe it will be generally admitted that, as far as deprecating all national interference is concerned, they were in a pronounced minority; in fact, it was soon evident that it was the consensus of opinion that pestilence from abroad should be kept out by the nation with a big N.
>
> The second burning question, and the hotter, was how far national control should extend and in what manner it should be exhibited. In other words, there were two camps, supporting the Spooner bill and the Caffery bill

respectively. The Spooner bill is Senate bill No. 3433, called for short the American Medical Association bill, although the said association has not yet indorsed it; the Caffery bill being Senate bill No. 2680, granting additional quarantine powers to the Marine-Hospital Service.

Although a valued contemporary lays stress upon the fact that the committee on resolutions stood ten for the Spooner bill and two for the Caffery measure, we are inclined to believe that this may have been due in part to the odd complexion of the committee, New York, Wisconsin, and Illinois having equal representation upon it as Alabama, Mississippi, and Louisiana. We do not mean that the former three States have not identical right of opinion or equality of interests in quarantine, but they are less directly interested in the entrance of yellow fever into the country, and are bound to feel in lesser degree the importance of being prepared at once to resist it. It is after all the great advantage of the Caffery bill, that it gives necessary authority to an already organized service which is right now in line with the work.

It is amusing, by the way, to note that one of the prominent arguments against the Caffery bill is that the care of the public health and of sick sailors is too much for one department, and that this point is raised *ad nauseam* by the advocates of the Spooner bill, which, reversing the matter without changing it, turns over the Marine-Hospital Service to the health department.

At any rate, it was clearly demonstrated that the convention was pretty well divided on the question, for the vaunted majority report had to be withdrawn, as well as the minority report, which supported the Marine-Hospital Service. Substitute resolutions, proposed by Congressman Clarke, of Mobile, were adopted without dissent. These resolutions were, as stated before, simply a compromise, indorsing neither bill and even throwing a sop to the State's rights men. This surelv does not make it appear as if the Spooner bill people were in the majority.

As with all compromises, there is bound to be an element of weakness in the resolutions, yet we believe the *entente* was wise, for, in default of it, it is doubtful if the convention could have reached a conclusion.

As it stands, Congress is simply asked to frame certain laws in the interest of public health and sanitation, giving proper control to the Federal government, without encroaching upon the right of States and municipalities to self-protection, provided they in turn do not obstruct commerce unreasonably. Details are left to the wisdom of Congress. This is just as well, for no bill would be or will be finally passed without modifications in both houses.

We believe the Caffery bill, which has already been amended, can best be made to suit present exigencies, and, for reasons already stated in our January editorial, we also believe it is the measure most likely to pass.

Should the bill have the necessary strength finally to become a law, we would suggest that it be made to provide for a change in the title of the service concerned. Let it be called the "Public Health and Marine-Hospital Service." It would interfere with nothing and would give proper recognition to that branch of the service which is destined to be in time of overwhelming importance.

Should Cities go into the Drug Business?—Under this heading the *St. Louis Medical and Surgical Journal* for March says: This is the burning question to-day, and the medical press is taking up the question in a manner that leaves no doubt. It is well known that boards of health, municipal and State, have sent circulars broadcast to the profession offering antitoxine free to any one who may need it. This is not particularly reprehensible when taken alone. But when these same boards go into the manufacturing business, making antitoxine at a cost to a municipality or State which is greater than it could be obtained from legitimate manufacturers, it is simply a fraud and an imposition on the taxpayers.

This is not the only question, however. A board has no right to enter into commercial enterprises, and this is certainly one of them. It might just as well start a vaccine farm or go into the business of furnishing pure foods and supply the poor with pure milk. The manufacture of antitoxine has been gone into extensively by the New York board of health, and, as a natural result, the entire pharmaceutical and a large proportion of the medical profession has expressed its disapproval of this action.

It is unnecessary to go into this question at length. Were it purely from economical grounds alone, antitoxine should be bought from legitimate manufacturers of pharmaceutical goods. From the standpoint of fairness and justice, no municipality should ever try to be a rival of a legitimate manufacturing concern; and from the standpoint of trade honor, it has no right whatever to do such a thing.

The Manhattan Vaccination Shield.—Mr. Adolph Levy, of Brooklyn, referring to the device described by Dr. A. Seibert in the *Journal* for February 12th, writes to us that five years ago he made this article in just the same manner and of the identical materials for Dr. William E. Griffiths, of Brooklyn.

Water.—Very many European physicians, remarks a writer in an editorial in the *American Medico-surgical Journal* for February 25th, believe that the most active cause of gastro-intestinal disturbance in America is the habitual use of ice-water, and, he adds, there can be no doubt that flooding the stomach with large quantities of ice-water while one is eating has a tendency, by lowering temporarily the temperature of the viscus, as well as by diluting the gastric juice, to cause disturbances of digestion which on repetition may result in the production of gastric catarrh. On the other hand, he thinks, the habitual taking of large amounts of water is very advantageous for all gouty individuals and for all persons who eat more than the needs of the system require.

The American habit of drinking water has not, the writer goes on to say, arisen from the promptings of any blind instinct, but has simply sprung from the climatic condition. The dry air (as compared with that of Europe) and the high temperature of the summer months make the Americans throw off water and make the system demand water. That the American people do not drink more water than they need is shown by the fact that the American is a drier individual, not only in his speech, but also in his tissues, than the European. The humorist, says the writer, habitually expresses a physiological fact when he makes John Bull in the cartoon plump and succulent and Brother Jonathan hard and dry.

The writer states that many years ago, at a meeting of an international congress, he maintained that a certain physiological operation or procedure reported by European physiologists did not produce the results upon dogs which were alleged, unless the European canine was very different from his American brother. This suggestion, he says, led to a general titter until Brown-Séquard got upon his feet and said that he had studied and practised medicine and vivisection on the two continents, and that it was a fact that the American people and the American dogs and lower animals were distinctly different in vascularity from their respective kindreds in Europe; that the operations in vivisection which in Europe he could scarcely perform, on account of the amount of bleeding produced, he had often done on the American dog with almost dry tissues.

The American drinks water, the writer continues, because he is thirsty; he is thirsty because he sweats; and he wants his water cold because he is hot, the cooling of the system being demanded, but the cool temperature being especially grateful to a heated throat. What, he asks, is the poor American to do? He is threatened with mummification if he does not drink water; he is appalled by the horrors of gastric catarrh if he does drink water. The answer is obvious: Drink water *between meals* rather than at meals. The drier the meals, the less dilute the gastric juice, the better, theoretically at least, is the digestion. Fortunately, the ordinary human being is made with a reserve force, and so if he is in the ordinary condition he need not study the number of drops of water he takes with his meal; but if he has any disease of the stomach or feebleness of digestion it is well worth while to count the drops.

Cold water, he adds, has so good a taste when a man is very heated that most people will continue to take cold water, and a general chilling of the body would seem sometimes to be of service. Nevertheless, there probably are cases in which the sudden pouring of large masses of cold water into a stomach in a person who has little reserve power has produced an immediate violent disturbance. These cases are, however, in the writer's opinion, very few; but he advises those who become overheated to drink cold water slowly.

The Employment of Hydrochloride of Phenocoll.—This drug, says Dr. Dall' Olio in the *Gazzetta medica Lombarda*, 1898, page 34 (*Gazette hebdomadaire de médecine et de chirurgie*, February 20th), is a very fine white crystalline powder, soluble at 62° F. in sixteen parts of water. Its solutions are neutral, and have a slightly salt and bitter taste, which, in the preparations, may be disguised by the addition of syrups. After Kobert, Von Mering, Schmidt, and Albertoni had demonstrated by their pharmacological investigations the perfect harmlessness of phenocoll in animals, it was employed in therapeutics. From the beginning Herzog was assured that the hydrochloride of phenocoll was one of the most valuable acquisitions to the modern materia medica, and the facts, says the writer, seem to justify this opinion.

Dr. Dall' Olio cites many cases in which the employment of the hydrochloride of phenocoll produced excellent results and led him to the following conclusions: 1. Hydrochloride of phenocoll is an excellent antipyretic, analgetic, and antirrheumatic medicament. 2. It renders remarkable services in the treatment of malarial fevers, even in long-standing cases which have been rebellious to the salts of quinine, and it reduces the size of the spleen in malarial disease. 3. It is employed with advantage in chorea and in whooping-cough and as an antithermic in the different febrile diseases. 4. It is easily administered even to the most delicate children, and it is well tolerated by them as well as by adults.

The Death of Dr. Rudolph Leuckart, of Leipsic, privy councillor and professor of zoology and zootomy, is recorded in the *Wiener klinische Wochenschrift* for February 17th.

A Form of Neuralgia occurring in Bicyclists is described in the *British Medical Journal* for February 26th by Mr. W. H. Brown, surgeon to the Leeds General Infirmary. He says that in July last he was consulted by a young man who complained of sickening pain in both testicles. Upon examining the skin of the scrotum it was found to be unusually sensitive, and the testicles themselves, together with the perinæum, were extremely tender. All the symptoms had come on after a long ride, during which he had attempted to break records of high speed. This patient had ridden at intervals for some years, but had only lately attempted the more rapid rides.

Mr. Brown would not have attached much importance to the case had it not been followed in quick succession by others of a like nature. As the symptoms in each instance had a general resemblance, it dawned upon him that he was face to face with a new disorder, which for want of a better name he at the time dubbed cyclist's neurosis, and began to note more closely the conditions under which it arose. A fresh instance in the person of a "champion" wheelman—a man who had won many races and broken many records—gave him the opportunity. His complaints were of scrotal and testicular pain, as in the other cases; in addition, the skin on the inner side of both thighs was so sensitive that he could hardly bear his clothes to rest upon them. This man had a day before performed a feat which had called for prolonged riding at a high speed. He showed Mr. Brown his attitude while racing. Beneath the skin of the perinæum were slight extravasations of blood as evidence of signs of pressure.

A man, aged forty, complained that, after two hours' ordinary riding, the penis became insensitive, and he could pinch the skin hard and feel no pain, while the glans had lost its normal sensation. He had once suffered from retention of urine after a prolonged journey. The anæsthesia in this case passed off three or four hours after the saddle was quitted, but returned again several times, and on the last occasion he sought advice.

These cases—eight or nine in number—are, the author thinks, sufficient to show that there is an injurious pressure brought to bear upon the nerves of the perinæum by cycling under certain conditions.

That the pain thus caused is no trivial discomfort, he says, is proved by the fact that one of his patients was laid up for over a month, part of that time in bed and hardly able to move. This, of course, may be said to be exceptional, but he can quite understand how such a condition might become permanent or relapsing as in other well-known forms of neuralgia.

Some three or four ladies have complained of pain at the anus and the skin round about. In one instance defæcation caused great distress, although there was nothing visible in the way of piles or fissure to account for such suffering.

The cause of the complaint in all the cases mentioned being obvious, the treatment consisted in its removal, and when necessary the application of local sedatives to the affected area; in two cases when the pain was excessive opium was needed. All ultimately recovered, and most of them have again resumed their favorite occupation, but under improved conditions, that is, altered saddles. Mr. Brown does not advocate any patented saddle; he says only that if a saddle causes neuralgia it is a bad one, and from what he has seen a well-fitting saddle is as difficult to get as a well-fitting boot. He has no doubt that there are many who have ridden for years and escaped, so far, from the annoyance—to use no stronger word—described, but since he has made inquiries among his friends he finds that many could add a case or two of this painful affection.

Precocious Sexual Development in a Little Girl.—In this curious case, reported by Dr. M. Wladimiroff (*Archiv für Kinderheilkunde,* 1897; *Archives de médecine des enfants,* February, 1898), a girl six years and a half old entered a hospital because of a rhachitic deformity of the lower limbs. At birth she was perfectly normal and began to walk at the end of a year. At the age of four years and a half it was noticed that there was a distinct growth of pubic hair and that the breasts had begun to enlarge. At the time of the report the child's height was four feet and her weight fifty pounds, and her voice and general appearance were those of a girl of nine years, but the external genitals were those of an adult, and her breasts of the size of an orange. The mons Veneris was abundantly covered with long hair. Some days before her entrance into the hospital she had had a bloody discharge from the vagina which lasted four days. The child's mental development corresponded with her age, but there was a very well-marked sense of modesty which prevented her from undressing before strangers and was unusual in one of such an age and origin.

The Louisiana State Board of Health.—It is stated in the March number of the *New Orleans Medical and Surgical Journal* that Dr. Edmond Souchon has been elected president; Dr. H. F. Reynaud, vice-president; Mr. Frank Zocharie, attorney; Dr. John Callan, chief sanitary inspector; and Dr. S. J. Théard, assistant sanitary inspector.

The Comparative Value of Holocaine and Cocaine.—An extended study of the comparative value of these two local anæsthetics has been made by Dr. Lagrange and Dr. Cosse, of Bordeaux (*Bulletin médical; Nouveaux remèdes,* February 8, 1898). The results obtained are as follows. In normal eyes the anæsthetic power of the two drugs is very nearly the same; in an inflamed eye, on the contrary, holocaine gives a more rapid and complete anæsthesia, and does not have the destructive effect on the corneal epithelium so often seen after the use of cocaine; hence it should be substituted for the latter in cases requiring continued application to an inflamed conjunctiva or cornea. In operations on the muscles or for pterygion, or in any cutting operation in which it is desirable to limit the amount of hæmorrhage, holocaine is found to be more desirable. In all cases, on the other hand, in which a diminution of the intraocular tension is desired, cocaine should be used.

Plans for a Medical Library in Cleveland, says the *Cleveland Journal of Medicine* for February, 1898, are rapidly being pushed. Eight thousand five hundred dollars have already been subscribed and the Childs property on Prospect Street has been purchased. It only remains for the profession to support the institution by yearly contributions in the shape of dues. The library already possesses over five thousand volumes and takes over a hundred and fifty current journals.

The Acadia Medical Association was organized on February 7, 1898, says the *New Orleans Medical and Surgical Journal* for March. The following officers were elected: Dr. N. B. Morris, president; Dr. G. C. Monton and Dr. G. E. Brooks, vice-presidents; Dr. N. L. Hoffpanir, secretary; and Dr. H. C. Webb, treasurer. The first regular meeting is to be held on the first Tuesday in March.

The Trial of Dr. Laporte on Appeal, says the *Presse médicale* for February 9, 1898, begins on February 25th, before the court presided over by M. Potier. M. Henri Robert will represent the defendant before the judges, and the advocate-general, M. Blondel, will have charge of the prosecution.

A Curious Malpractice Suit.—Dr. T. A. McGraw, of Detroit (*Medical Age,* February 25, 1898), has just gained a suit in which the claims for malpractice were so entirely preposterous that the judge refused to allow a trial and the case was thrown out of court. The patient who sued had a bilateral osteomyelitis with painful nodules on both legs. It had been agreed before operation, for some financial reasons, that only the most painful leg should be treated. At the time of operation, however, some doubt arose as to the side which was most painful, and so the patient was allowed to come out from under the anæsthetic, and then stated that the left leg was the most painful, a statement which was confirmed by some of his friends who were present at the time. But after the operation the patient complained not only that the wrong leg had been operated on, but that it was now painful, though never so before. No negligence could be proved under such circumstances, and the patient was promptly non-suited, a result which, as one contemporary says, should occur much oftener than it does at present in the average malpractice case.

Official Public Boards as Manufacturers.—An editorial writer in the *Oil, Paint, and Drug Reporter* to whose article we referred last week says, in regard to the prices at which the New York board of health sells its wares: It is noteworthy that, while these prices are usually somewhat below those at which private manufacturers have furnished the goods, the latter have never approached the figures which the serum is shown to have cost the board, and it is therefore obvious that the cost of production in the private establishment has been very much less than in the public laboratory. This is of necessity the case, and if the bill now pending were more sweeping in its provisions and put a stop to manufacturing by the public departments, the supply of serums for public use could be obtained at very much less cost to the city or State than the people are subjected to by the present method. As we have before stated in these columns, these preparations belong to a class which may well be the subject of official scrutiny, that their integrity may be assured to the public when there is any deficiency in the guaranty afforded by the reputation of the manufacturers, but beyond that public interference in the business is no more justifiable than it would be in the manufacture of fluid extracts or chemicals.

At the present time neither the State board of health nor any other local board feels justified in submitting samples of serums to the New York board for its examination, although it is better qualified than any other body in the United States for such work. But, having put itself into competition with other manufacturers in the commercial field, it would be obviously unfair to submit to it samples of competing products concerning which it might entertain a biased judgment. For that reason the people are deprived of a valuable service which the board might render were it not hampered by its interests in an enterprise which is of no public service commensurate with its cost. The drug trade in all its branches has interests which such legislation as is contemplated in Senator Brush's bill will promote, and the measure, therefore, deserves general support.

The Eastern Hampden Medical Association.—At the annual meeting, held in Springfield, Massachusetts, in February, officers were elected as follows: President, Dr. Leslie H. Hendee; vice-president, Dr. W. A. Smith; secretary and treasurer, Dr. G. W. Rawson; and censor for three years, Dr. J. W. Hannum. The association was organized in 1880, and has held regular monthly meetings ever since.

The Post-Graduate must Reinstate Professor Kelsey.—Professor Charles B. Kelsey has received from the supreme court a peremptory writ of mandamus directing the board of directors of the New York Post-graduate Medical School and Hospital to reinstate him as a professor of that institution. Dr. Kelsey was dismissed without a hearing by a majority vote at a meeting of the board which was not attended by all the members. The court decided that this was illegal, as it requires a majority of the entire board to dismiss a member of the faculty.—*Medical News.*

The Indications for Blistering.—At a recent meeting of the Académie de médecine, a report of which appears in the *Gazette hebdomadaire de médecine et de chirurgie* for February 17th, M. Huchard, in a paper on this subject, referred to the accidents which might arise from the employment of blisters. Nephritis, he said, was rare and not grave, and it was not observed in individuals in whom there was no hereditary peculiarity of tissue or any particular predisposition. Cystitis had no prognostic value. In subjects, however, in whom the functions of the kidneys were badly performed, in old persons, in gouty subjects, and especially in arteriosclerotics with interstitial nephritis, accidents in the urinary apparatus caused by blisters might assume an extreme gravity and rapidly end in anuria and uræmia. This fact, said M. Huchard, should be borne in mind whenever the physician had to deal with old persons, in whom, even in a normal condition, the renal permeability left something to be desired.

According to M. Huchard, the employment of blisters was abused in cases of chronic phthisis, in which, once out of six times, blisters caused a more or less grave anuria. Besides, in these cases the sore which remained after the application of the blisters constituted a point of entrance for secondary infections, and infectious nephritis in particular. On the whole, M. Huchard thought that blisters should not be used in advanced tuberculosis, in gout, in arteriosclerosis, in nephritis, or in old age. In the affections of the digestive tract, and in tuberculous, inflammatory, or infectious peritonitis, the utility of the blister was very questionable and was not even understood.

If, said M. Huchard, we bore in mind the many accidents which might be observed in the viscera (endocarditis, purulent infection, pyæmia, and many forms of suppuration) following a simple sore of the skin, it might be asked how far we were authorized to produce artificially a sore the asepsis of which was not easily obtained. This caution was doubly justified in the infectious diseases in which the resistance of the organism to secondary infection was considerably weakened. In pneumonia, especially, blisters were directly contraindicated in all stages of the disease.

In pleurisy an increase of the effusion under the influence of blisters had been pointed out by Laennec and Laborde. M. Huchard, also, had observed this in two cases. If the pleurisy was but a manifestation of tuberculosis, it might be asked how blisters could act against it. At the termination of pleurisy, when the exudation was being absorbed by the lymphatics, the application of blisters did not hasten the process of absorption. Regarding tuberculous meningitis, M. Huchard thought it was altogether useless to lay stress upon what the blister might accomplish in that affection.

So far as its analgetic action was concerned, M. Huchard preferred to make use of analgetics which did not present the inconveniences of the blisters. Regarding the increase of respiratory changes and of pulmonary ventilation, it was observed not only after the employment of blisters, but also after all cutaneous excitation. Phagocytosis was not an effect peculiar to the blister; experiments had shown that all excitation of the skin gave rise to a temporary phagocytosis.

The Employment of Dover's Powder.—In the so-called rheumatic diseases, says M. Liégeois, in the *Journal des praticiens*, 1897, No. 16 (*Gazette hebdomadaire de médecine et de chirurgie*, February 6th), the sudorific and sedative action of Dover's powder may be made use of in the following manner: The patient remains in bed, wears a flannel gown, and is covered with blankets. If it is an ordinary case in adults, ten grains are given in three doses at hourly intervals. As soon as perspiration sets in it is well to give a very hot aromatic drink in the intervals between the doses. When sudation reaches its height it is maintained as long as it is desired, for twelve hours if necessary, by keeping the patient covered with blankets.

Dover's powder is a valuable remedy in the beginning of measles and scarlet fever, when the eruption is not well developed, and if much fever and agitation exist. A single dose of four or five grains will cause copious perspiration in children. The author never gives this powder to children under four years of age, and always administers it in one dose. The hoarse cough in the beginning of measles is always very favorably influenced by the following mixture:

℞ Dover's powder, } each .... 3 grains.
Washed sulphur, }
M.

In the beginning of influenza Dover's powder is also useful; it considerably ameliorates the catarrhal laryngitis and tracheitis, the pains in the limbs, and even the fever.

In case of pulmonary congestion the following formula may be used:

℞ Dover's powder, } each . from 5 to 6 grains;
Quinine sulphate, }
Pulverized hyoscyamus.......... 1.50 grain.
M.

This quantity makes one dose, and two such doses are to be taken daily.

This powder is a good expectorant, owing to the ipecac and the potassium salt which enter into its composition; the expectorant effect may be increased, if the sputa are hard to detach, by the following mixture:

℞ Dover's powder		2 grains;
Ammoniac, Siam benzoin,	each	0.75 grain;
Anisated balsam of sulphur		2 drops.

M.

This is for one pill, and five or six such pills are to be taken daily at intervals of from two to three hours.

Dover's powder is also very efficacious in the acute diarrhœas, as follows: In the diarrhœa *a frigore* of adults, in doses of from four to eight grains; in the diarrhœa of infants during teething in a dose containing only 0.75 of a grain, notably at night; and in the diarrhœa which is coincident with the decline of measles and accompanied by a frequent and fatiguing cough.

In the diarrhœa of tuberculous enteritis the following formula gives good results:

℞ Dover's powder		150 grains;
Compound powder of chalk, Calumba powder,	each.	300 "

M.

This quantity makes sixty capsules, and two capsules are to be taken daily.

The Southern Section of the American Laryngological, Rhinological, and Otological Society will meet in Atlanta on Monday, March 28th, under the presidency of Dr. A. W. Calhoun, of Atlanta. The preliminary programme includes the following papers: Labyrinthine Vertigo, by Dr. John Hey Williams, of Asheville, North Carolina; Chromatic Audition, by Dr. J. L. Minor, of Memphis; A Report of a Case of Hæmorrhage after the Removal of Adenoid Vegetations, by Dr. Ross P. Cox, of Rome, Georgia; Hypertrophy of the Lingual Tonsil, its Symptoms and its Treatment, by Dr. D. A. Kuyk, of Richmond, Virginia; Thrombosis of the Lateral Sinus Dependent upon Suppurative Otitis Media, by Dr. E. B. Dench, of New York; Othæmatoma and Perichondritis of the Auricle, by Dr. John O. McReynolds, of Dallas, Texas; Tracheotomy for Foreign Bodies in the Air-passages; a Report of Twenty-seven Successful Cases, by Dr. Willis F. Westmoreland, of Atlanta; Empyema of the Accessory Nasal Cavities, by Dr. Ruffin A. Wright, of Mobile; The Influence exerted on the Development of the Nervous System of the Child by Adenoid Vegetations in the Nasopharynx, by Dr. E. P. Sale, of Memphis; Nasal Fibroma, with a Report of Cases, by Dr. L. M. Crichton, of Atlanta; A Form of Primary Nasal Diphtheria, by Dr. E. C. Ellett, of Memphis; The Importance of Examining the Nose in Troublesome Coughs, by Dr. Alfred C. Palmer, of Richmond, Virginia; Intubation of the Larynx for Membranous Stenosis, by Dr. Bernard Wolff, of Atlanta; Mouth Breathing, by Dr. N. B. Jenkins, of Knoxville, Tennessee; Mental Disturbance in Turbinate Hypertrophies or Nasal Stenosis, by Dr. John F. Woodward, of Norfolk, Virginia; A Discovery in the Physiology of the Ear, by Dr. W. F. Cole, of Waco, Texas; Middle-ear Catarrh; Some Original Deductions, by Dr. Maury M. Stapler, of Macon, Georgia; Ethmoiditis, with a Report of a Case, by Dr. B. F. Travis, of Chattanooga; Mastoid Inflammation, with a Report of Two Interesting Cases, by Dr. T. E. Mitchell, of Columbus, Georgia; Mouthbreathing in Children, particularly as a Result of Adenoids, by Dr. Arthur G. Hobbs, of Atlanta; The Nasopharynx in Laryngeal Diseases, by Dr. N. C. Steel, of Chattanooga; Cholesteatoma of the Mastoid Antrum, by Dr. S. L. Ledbetter, of Birmingham, Alabama; Diseases of the Accessory Sinuses, by Dr. Alexander W. Stirling, of Atlanta; Clinical Miscellanies from Private Practice, by Dr. Frank M. Mullins, of Fort Worth, Texas; Empyema of the Accessory Sinuses of the Nose, by Dr. Frank M. Hanger, of Staunton, Virginia; A Good Hæmostatic after Nasal Operations, by Dr. L. B. Grandy, of Atlanta; Hypertrophic Rhinitis and its Treatment, by Dr. J. F. Hill, of Memphis; The Serum Treatment of Ozæna, by Dr. W. E. Campbell, of Atlanta; and Peritonsillar Abscess, by Dr. Dunbar Roy, of Atlanta.

A Step toward the Obliteration of Medical Sectarianism in Kansas.—We are indebted to the editor of the *American Journal of Surgery and Gynæcology*, Dr. Emory Lanphear, for an advance proof of some editorial paragraphs. In one of them it is stated that this year the three State societies of Kansas—regular, homœopathic, and eclectic—are to meet at the same time and in the same town, and will hold some joint sessions for the purpose of securing needed medical legislation.

Some Points in the Treatment of Typhoid Fever.—In the February number of *Love's Medical Mirror* there is an article with this title by Dr. John A. Larrabee, of Louisville, who seems to believe in specific treatment. While, he says, an antitoxine of the typhoid-fever bacillus has not yet been demonstrated, we every day successfully combat the malarial micro-organisms through the blood by agents which are comparatively innocuous. It may be stated without fear of contradiction that there is no disease in which a better opportunity exists for such abortive effort, the slow and insidious onset affording an abundant opportunity for the introduction of small and frequently repeated medicatives, the anorexia preventing deleterious food being taken, the pyrexia causing rapid absorption of liquids, and thereby favoring elimination. It has been his observation that the products of the typhoid-fever bacilli are far less injurious than the heterogeneous microbes and ptomaines formed in the intestinal tract by reason of improper diet and from poisonous gases, the product of putrefactive changes, all of which are in our power to prevent. To secure and maintain intestinal antisepsis is to him the *sine qua non* of treatment.

Dr. Larrabee says that he has not employed the so-called "Woodbridge treatment," but he says he fully indorses the principle upon which Dr. Woodbridge bases his therapeutics. He thinks we have not yet attained to the knowledge of the ancients in the germicidal properties of the aromatics. The essence of cinnamon is more potent to destroy some micro-organisms than carbolic acid. At one time a celebrated practitioner of Dublin gained notoriety by the successful treatment of typhoid fever with balm tea, drank cold in great abundance. Dr. Larrabee thinks that the treatment of yellow fever in *ante-bellum* days with orange-leaf tea proved more successful than the heroic treatment then in vogue. In 1864, while in the United States service, he met with a surgeon of volunteers, Dr. Fisher, whose treatment of typhoid fever in barracks had been so much more successful than that of other surgeons of the staff that it attracted the attention of the surgeon general, and was made the subject of special inquiry by the medical inspector. Dr. Fisher's prescription consisted of a pill of his own composition, and contained crude mercury, with the aromatic oils and terebinthinates, cubeb, copaiba, peppermint, cinnamon, aloes, and colocynth. It was a difficult pill to make, unless made in quantities, the mercury being triturated with the other ingredients until the globules were reduced, as in blue mass. With five grains of this mass every four hours he began and continued his treatment. When purgation ensued, as was often the case, he alternated with five or ten grains of Tully's powder.

At the end of the first week the tongue became moist and clean; there was no delirium, no sordes, no tympanites, and convalescence was usually established at the end of two weeks. Dr. Larrabee says he has never since been without these pills, which are now made by the improved machinery of Eli Lilly & Co., of Indianapolis. No special attempts were made in those days to control temperature other than by controlling the disease. Admitting the possible acceptability of small and frequent doses, he is inclined to think that the annoyance of fifteen-minute doses, advocated by Woodbridge, is of itself deleterious.

When Dr. Brant saw the benefit arising from his water plan of treatment, of which he reported two hundred cases, he is quoted, says Dr. Larrabee, as saying that, whenever he heard of a death from typhoid fever in a previously healthy adult, he thought a homicide had been committed, and that the guilty person should be looked up. Dr. Woodbridge's statements, while not so strong in language, imply something of the same kind. Dr. Larrabee says he once had something of this ecstatic feeling himself, when upon one occasion he had treated fifty-two consecutive cases with but one death, all genuine typhoid fever; but in the next record of cases coming under his care, with the same management, he lost three out of nineteen patients. And yet he believes that the mortality from typhoid fever is far greater than it need be, and far greater than it would be, if a decided plan was adopted early and maintained throughout the cases.

Dr. Larrabee tells us that he was among the first to use guaiacol in typhoid fever, and soon found that it possessed properties far superior to those of salol and benzolol, and less injurious.

At the meeting of the American Medical Association, in Philadelphia, in June, 1897, he continues, Mr. W. J. Evans showed a new chemical union of guaiacol and quinine exhibited by McKesson & Robbins, called guaiaquin, a salt made by decomposing guaiacol with sulphuric acid, producing guaiacolsulphonic acid, with which the alkaloid quinine gives guaiacol bisulphonate of quinine, or guaiaquin. This salt is a little heavier than sulphate of quinine, resembling tannic acid in color, and is perfectly soluble in water and in alcohol. All practitioners will admit, says Dr. Larrabee, that an early diagnosis of typhoid fever is greatly to be desired; also that in the South and West it is necessary to make a diagnosis by eliminating malarial disease, which is so universally present. There is sufficient quinine—61.36 per cent.—in guaiaquin to successfully combat malarial poisoning without being prejudicial to the nervous system, while the guaiacolsulphonic acid—38.64 per cent., equal to 23.48 per cent. of pure guaiacol—is sufficient to secure and maintain intestinal antisepsis. In malarial cases simulating typhoid fever, it is very gratifying under this treatment to have a prompt appearance of herpes labialis, with an arrest of fever, which is conclusive evidence that we are dealing with malarial and not with typhoid fever. In such cases it has been his custom to continue the use of guaiaquin over a period of several days. Should the fever continue to follow the temperature curve of Wunderlich, the guaiaquin is discontinued, and guaiacol alone is prescribed.

Dr. Larrabee goes on to say that, if there is any one feature which helps us to make an early diagnosis, it is the complete anorexia. In other disturbances and in paludal fevers the appetite may be capricious and morbid, but it is never entirely lost. It is lost in typhoid fever completely from the start, and does not return except with convalescence. It is not uncommon to see at the bedside, he says, an eggnog, beef tea, and sweet milk to an amount which would kill a well person. Bouillon, Axtell's capsules, buttermilk, Mellin's food with milk, and plenty of sterilized water, are, he feels sure, quite sufficient to choose from, and never more than a gill of any one at a time. A drink made by pouring water over dried apples is a most acceptable substitute in country places.

The author says that to protest against the employment of alcoholic stimulants in typhoid fever would appear to many excellent practitioners a blow aimed at a settled therapeutics, and yet, in reviewing an experience extending over a quarter of a century, he has to confess that he has not seen any benefit from their use which might not have been obtained from tea or coffee judiciously administered. A cup of hot bouillon, with a little extract of celery seed and salt, is an excellent stimulant, he adds.

Dr. Larrabee says that when it becomes necessary to assist the heart's action in typhoid fever, there is only one route to take and only one agent to be considered, and that is the cerebro-spinal route, and strychnine is the agent. A stimulant misapplied or inopportune may not only do no good, but actually do harm. One should not wait for urgent and alarming need before giving small doses of strychnine. It is too often the case that such therapeutics is reserved for a panicky condition of affairs which would not have occurred had the strychnine been given earlier in the case.

Heat is a powerful stimulant to a heart in muscular failure, and a hot-water bag or the geyser hot appliance should be on hand for emergencies.

In cases of hæmorrhage, he says, the administration of a mineral acid, and especially a diet of buttermilk—lactic acid—favors coagulability, and is a better safeguard against hæmorrhage than hæmostatics. Ergot can control hæmorrhage only when the unstriped muscular fibre can compress the bleeding vessels, and the well-known action of this drug in uterine hæmorrhage has led to its indiscriminate use in all forms of bleeding. The use of ergot in other forms of hæmorrhage is a therapeutic error.

The multiplicity of unreliable disinfectants, and the common idea regarding any deodorant as a disinfectant, works much mischief, Dr. Larrabee is convinced. While disinfectants are multipled beyond enumeration, the principle upon which their germicidal qualities depend remains the same. The agent, to be effective, he says, must liberate nascent oxygen in the presence of the germ. Nothing has yet been discovered as a dusting powder which can equal chlorinated lime. Labarraque's solution of the hypochlorites and Platt's chlorides are the best liquid preparations. Oxygenation by these, or actual combustion by fire, is alone to be thought of.

Original Communications.

THE TRANSMISSION OF DISEASE BY THE MOSQUITO.

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The subject of the transmission of infectious or contagious diseases by insects is one which has received but little attention, although it is of great economic and ætiological importance; in fact, it has not been until very recently that scientific investigations have been made concerning the spread of disease in this way. This is the more surprising when we consider the almost universal distribution of insect pests, their close association with the sick and well, and their structure and habits. Since the development of bacteriology this subject has assumed a new and deeper significance. Not considering, for the moment, the structure of common insects, than which, in many instances, nothing could be conceived better fitted to carry infectious material—*i. e.*, the micro-organism—it is a fact that many organisms which produce disease occasionally or always assume an intermediate stage in certain other higher organisms, which are not infected by them. Some insects are the intermediate hosts of certain organisms, and disease and pestilence are thus spread. It may be said, then, that insects may transmit disease in the following ways: By transporting the cause upon their bodies and infecting whatever they alight upon; by inoculating the disease-producing organism in biting or stinging; by means of their excreta; by serving as an intermediate host for the development of the life cycle of certain disease-producing organisms. It is the author's purpose in this paper to consider the structure, habits, and life cycle of one of the most common insects—*i. e.*, the mosquito—together with a *résumé* of recorded instances and experimental evidences concerning the transmission of disease by this insect. It is his belief that many sporadic cases of infectious and contagious disease are due to insect infection, and it is to bring this subject more clearly before the profession that this paper has been prepared.

Mosquitoes and Disease.—We have in the mosquito an almost universal pest, for it is present in every country and clime, even in the arctic regions, where it is said to be abundant. In structure, the mosquitoes are slender-bodied insects, provided with very light, gauzy wings, which are covered along the veins by delicate scales. Of greatest interest, however, to the physician is the structure of the mouth parts, which contain lancet-like mandibles especially fitted for piercing the integument, and with which the female insect can inflict a very severe wound. If the insect had become infected in any way and the infecting material had lodged upon the mandibles, it is obvious how easily such material could be inoculated into the human system through the bite. The mosquito is a suctorial in-

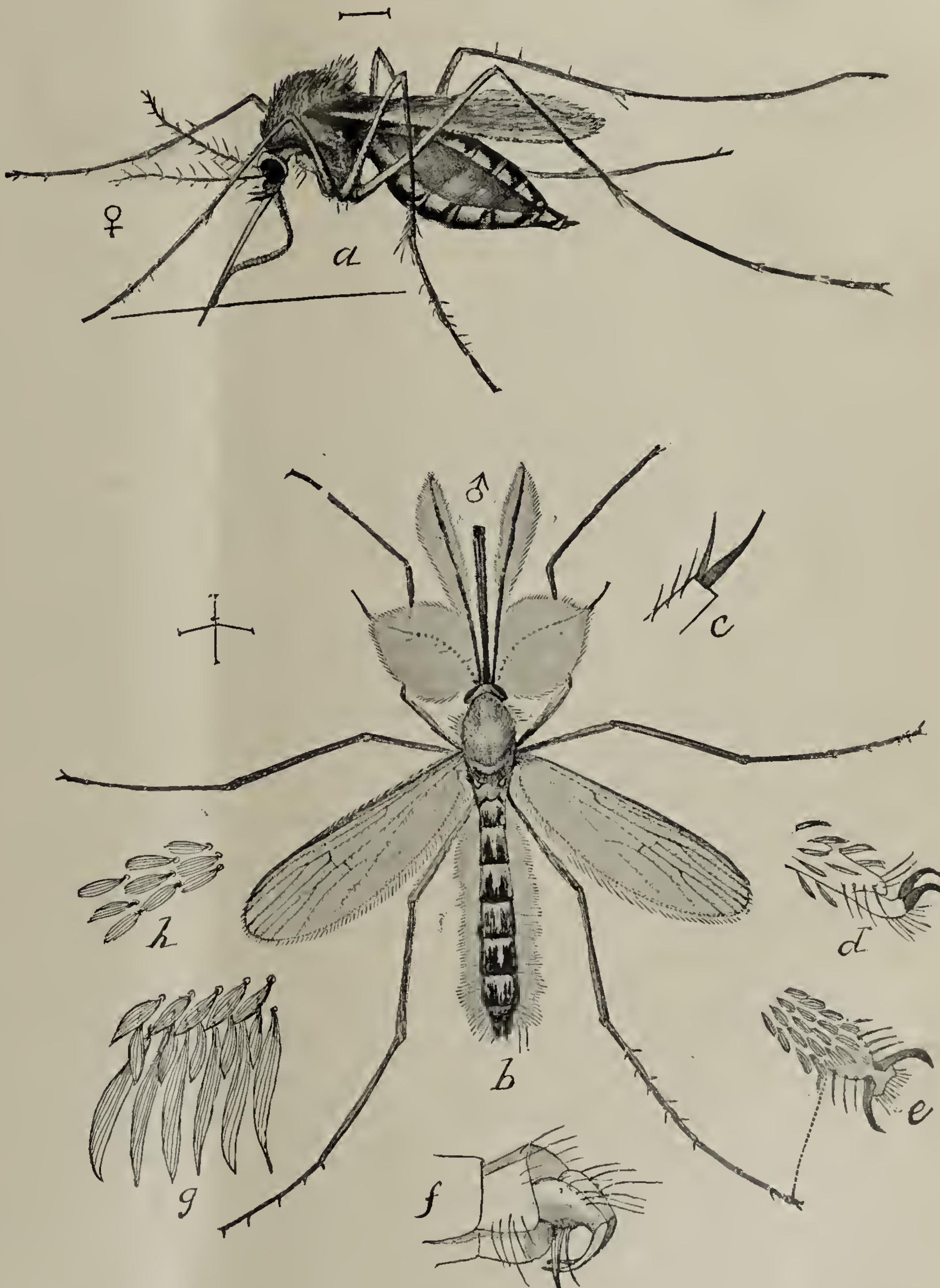

Fig. 1.—Mosquito (*Culex pungens*). *a*, female, from the side; *b*, male, from above; *c*, front tarsus of same; *d*, middle; *e*, hind tarsus; *f*, genitalia of same; *g*, scales from hind border of wing; *h*, scales from disc of wing—all enlarged (from Howard). (Osborn, *Bulletin No. 5*, new series, Division of Entomology, United States Department of Agriculture.)

sect, and it is through this channel that it most often infects man and the lower animals. It can be easily seen how a mosquito, after sucking the blood of a diseased animal, might convey the contagion upon its blood-stained mandibles, and in the event of its attacking another would inoculate the disease. No surer for such a purpose would be the inoculating syringe of the bacteriologist than the lancets of the mosquito covered with infective blood or other matter. The life history of the mosquito is briefly as follows, as given by Osborn (1): "Eggs are deposited in small, boat-shaped masses, and the larvæ hatching from these escape into the water. They move about by a jerky motion, often ascending to the surface to obtain a fresh supply of air, which is taken through a slender tube at the caudal end. The pupæ are also active, and move about in the water during their brief existence in this form, rising to the surface for air, which is taken through a spiracle near the head. When the insect is ready to emerge, the pupa rests at the surface with the dorsal face slightly out of the water; the case splits, and the mosquito draws out first the front legs, which are placed on the water to serve as a support while the rest of the body is withdrawn. The wings expand very quickly and the insect flies away."

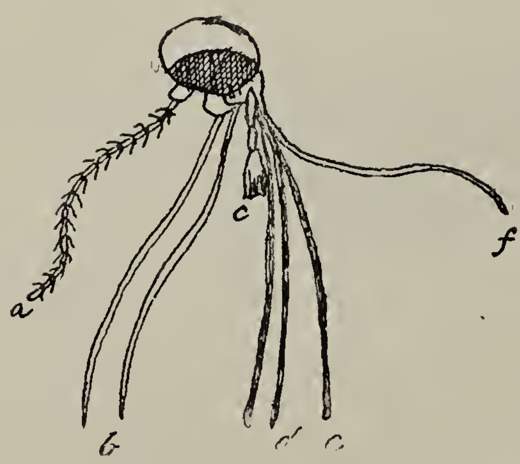

FIG. 2.—Mouth parts of female mosquito (Craig), greatly enlarged. *a*, antennæ, of which there are two; *b*, mandibles, lancet-shaped: *c d*, palpi of maxillæ; *d*, maxillæ, which are bristlelike; *e*, labium; *f*, labium. The maxillæ, palpi, mandibles, and labium constitute the beak, which is thrust into the skin when the mosquito bites. They can be laid together and when not used are folded within the hollow labium.

In depositing her eggs, which occurs at night, the female rests with her four front legs upon the surface of the water of stagnant pools while the hinder pair are crossed. The eggs are just visible to the eye and are between two and four hundred in number, glued together by a viscid substance into a little boat-shaped mass which floats upon the water until the larvæ are hatched. These larvæ are very voracious, eating whatever comes in their way, including even the remains of the female mosquito. According to Howard (2), the larval stage is generally completed in seven days, and the pupal may last but twenty-four hours, an entire generation in summer time being completed in ten days; but if the weather be cool this life cycle may be much prolonged. Howard says: "There are, therefore, many generations in the course of a season, and the insect may breed successfully in a more or less transient surface pool of water."

"Mosquitoes hibernate in the adult condition in cellars and outhouses and under all sorts of shelter. The degree of cold makes no difference in successful hibernation. Mosquitoes are abundant in the arctic regions."

Having somewhat briefly reviewed the structure and life cycle of this interesting insect, we will now consider its relations to certain diseases and their propagation.

Mosquitoes and Yellow Fever.—The disease known as yellow fever is essentially one of the tropical and insular portions of North and South America and the West Indies, occurring only, it is said, between 45° north and 35° south latitude. It prevails only when the temperature is above 70° F., and is especially virulent and prevalent along the low-lying coast regions. This fact, together with another, that moisture seems to be essential for its development, has directed the attention of investigators to the part which insects, and especially the mosquito, may play in carrying the infection. Almost all authorities agree that the cause of yellow fever is in all probability a micro-organism, and, as the disease occurs where mosquitoes are most numerous and voracious, it does not require a great stress of the imagination to enable us to understand how the disease may be spread by this insect. In fact, if we consider the uncleanly habits of the natives in many of the regions where yellow fever is prevalent, their manner of caring for the sick, the disposing of their dejecta and dead bodies, we must confess that the opportunities for insect infection are almost unlimited. Certain authorities, notably Finlay and Hammond, are of the opinion that the majority of cases of yellow fever arise from infection produced by the bite of the mosquito. Finlay (3) thus describes his theory of the transmission of this disease by the mosquito: "The female mosquito having introduced its lance into the skin of a yellow-fever patient through one of its pores (excretory ducts of the sebaceous or sudoriparous glands), pierces one of the blood capillaries and fills itself with blood. In so doing the transverse ridges and the terminal teeth that exist on the outside of the compound lance of the insect are supposed to pick up some of the disease germs contained either in the blood itself, in the walls of the capillaries, in the connective tissue, or in the excretory duct of the cutaneous glands through which it has penetrated. After this operation the lance is withdrawn within its sheath, and the mosquito, weighted by the blood, seeks some dark corner where it may hide and digest unmolested the blood that it has sucked. Forty-eight hours in summer and three to five days in winter are required for this digestion, during which time the insect persistently refuses to sting again, though it is always ready to suck, with the point of its proboscis, at any particles of sugar that may be within its reach.

The female mosquito has generally been fecundated before it begins to sting, and will therefore seek some pool of stagnant water or neglected bucket in the open air where it may lay its eggs. The day mosquito never lays its eggs in the manner described in books, but scatters them, smeared with a glutinous substance, over the surface of the water or upon the sides of the tank or vessel."

The author conducted a number of inoculation experiments and found that "the interval between the application of the contaminated mosquito to a susceptible person and the appearance of the first symptoms of a mild attack of the disease (when such a one did occur) varied between five and twenty-five days, the latter term being the one fixed upon beyond which any morbid symptoms would be considered as independent of the inoculation."

We thus see from the above extracts that the mosquito is capable of carrying the contagion of yellow fever, and experimental evidence proves that a person bitten by a mosquito which has previously sucked the blood of a yellow-fever patient may contract the disease. Although the danger of infection through mosquitoes may not be as great as some think, we must admit that it exists, and that it is very probable that a large number of cases of yellow fever are caused in this way. When we consider the abundance of mosquitoes in the fever regions and the almost utter impossibility of protecting one's self from their bites, it must needs be that a certain number of fever cases are so caused. Just how large this number is, and, therefore, just how serious this method of the transmission of the disease may be, are problems to be solved.

Mosquitoes and Filaria.—The *Filaria sanguinis hominis* is a blood parasite which by many observers is regarded as the cause of elephantiasis; it causes chyluria and in some instances hæmaturia; it has been found present in elephantiasis, chylous hydrocele, varicocele, and lymph scrotum. (4) There are three well-known species of filaria—*i. e., Filaria nocturna,* which can be detected in the blood only at night; the *Filaria diurna,* which is found in the blood during the day only; and the *Filaria perstans,* which is always present in the capillaries. The latter two are confined, it is thought, to the western coast of Africa, but *Filaria nocturna* is always present in tropical countries and is endemic in some parts of the United States. There is a fourth variety of filaria described by Manson in a letter to Dr. Henry, of Philadelphia. Dr. Henry says: (5) "In a letter recently received from Dr. Manson he says that America possesses the 'unenviable distinction of possessing a filaria of the blood which is possibly peculiar to itself. I found it in negroes from the island of St. Vincent, and I have little doubt but that it could be found in the negroes of the more tropical States of the Union. This filaria I have named *Filaria demarquayi,* after Demarquay, the discoverer of *Filaria nocturna.* It is a very small worm, not half the size of the filaria you are familiar with. It observes no periodicity; it is sharp-tailed and it possesses a sheath,' etc."

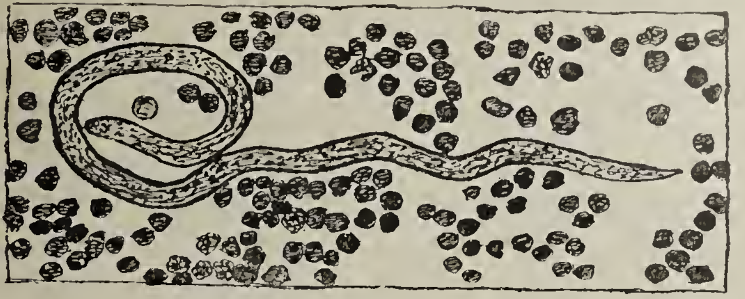

FIG. 3.—Filaria nocturna alive in the blood. × 400. (From an instantaneous photomicrograph by Henry.)

Of most interest to us in the present connection is the *Filaria nocturna.* According to Manson (6), "this blood parasite almost invariably precedes or accompanies in the tropics chyluria, nævoid elephantiasis, chylous dropsy of the tunica vaginalis, varicose and indurated inguinal glands, chylous ascites, recurring orchitis, certain kinds of abscess occurring in the limbs, especially in the thighs and groins, lymphangeitis, and lymphatic fever." He believes that tropical elephantiasis is caused by this parasite. In order to most graphically explain the relation of the mosquito to this organism and the life of the organism itself, I quote Manson's conclusions derived from his researches upon the subject. He says: (7) "Unless there is some disturbance, as fever, interfering with the physiological rhythm of the body, filaria embryos invariably begin to appear in the circulation at sunset; their numbers gradually increase till midnight; during the early morning hours they become fewer by degrees, and by 9 or 10 A. M. it is a very rare thing to find one in the blood.

"1. The parent filariæ live in the lymphatics; this is proved by their young and ova being found there, even when absent from the blood.

"2. They do not live in the glands, but in the lymphatic trunks on the distal side of the gland. Lewis and Bancroft found them in tissue some distance from any gland.

"3. They are oviparous.

"4. Their eggs are carried by the current to the glands, and, being too large to pass, they are arrested till they are hatched.

"5. After hatching, the free embryo passes along the lymph vessels and enters the general circulation.

"6. Resting in some organ during the day, it circulates with the blood during the night [it has since been proved that embryos circulate during sleep, whether it be night time or not],

"7. Whence the mosquito abstracts it and acts as its intermediary host.

"8. In certain cases the ova or embryos produce obstruction of the lymph circulation through the glands, either directly, by their size, or indirectly, by causing inflammation.

"9. If the obstruction be partial, varicosity of glands and afferent lymphatics results, but by means of the anastomoses the lymph circulation is continuous, carrying the embryos with it into the blood. Lymph scrotum, or chyluria, or varicose glands with hæmatozoa are therefore the symptoms of partial obstruction of the lymphatics.

"10. If the obstruction be complete, one or other of two things happens: (*a*) The accumulating lymph so distends the vessels that they rupture, and a lymphorrhagia results which is more or less permanent. In this case the lymph does not quite stagnate, but, being able to circulate, though in a retrograde manner, it remains fluid. The symptoms of this form of obstruction are, therefore, lymphorrhagia from scrotum or leg, varicose glands, and filaria embryos in glands, and perhaps in discharged lymph, *but none in the blood.* (*b*) If the lymphatics fail to rupture, there is complete stasis of lymph and excessive accumulation in the tissues on the distal side of the glands, solidification of the glands and tissues, and elephantiasis results. No embryos are found in the blood, as none can pass the glands, and the parent worms probably die, choked, so to speak, by the stagnant and organizing lymph and their own young. Consequently, in pure elephantiasis, as a rule, no embryos can possibly be found in the blood or gland lymph."

Morison, (8) in commenting on these conclusions, says: "The author (Manson), when he speaks of the mosquito as an 'intermediary host,' means that it is the mosquito which carries the embryo of the filaria indirectly from man to man. This is accomplished in the following manner: The filaria embryo circulates in the blood of the sleeper, the mosquito fills himself with his infected blood, he then flies to some damp, stagnant pool of water, which is his natural haunt, and upon the surface of which he drops to die. The embryos of the filaria contained within the blood which he has previously sucked are set free, and are ready to enter the circulation of the next thirsty mortal who happens to take them in with his draught of water. Once in the blood they develop, and if in sufficient quantity produce stagnation in the lymph vessels, which eventually becomes elephantiasis arabum."

Manson has demonstrated that the sheath which incloses the filaria is intrenched as a protective covering, so that it is impossible for it to work its way through the blood-vessels, while in the human body, by means of its oral armature. As soon, however, as it reaches the outside of the body, which it does by being ingested by the mosquito, it breaks through its sheath, and by and by reaches the walls of the mosquito's stomach by its locomotive movements; here it, in Manson's words (9), "employs its now naked beak and hooks to tear through this viscus, and then, boring and squeezing along between the fibres of the thoracic muscles, to work its way to the destination where it will subsequently undergo the metamorphosis qualifying it for further life." This metamorphosis consists in the acquisition of an alimentary tract, a circle of papillæ, and growth in size and activity. The process is complete in about six days, at which time the mosquito dies, having deposited her eggs upon the surface of some pool and finding in its depths her last resting place. The filaria are set free through the decomposition of her body, and reach man again should he partake of the water infected by them. In this process we have a remarkable illustration of the transmission of an organism causing disease by an insect, and not only the transmission of the organism, but an instance where the insect is absolutely necessary for the development of the life cycle of that organism.

Mosquitoes and Malaria.—The geographical distribution of malaria and mosquitoes coincides so significantly that the relation of this insect to the spread of the disease has been often broached. Laveran, the discoverer of the *Plasmodium malariæ*, was the first to enunciate a theory of infection in which the mosquito played the chief part, but the Gulstonian lecture of Manson in England, upon The Life History of the Malaria Germ outside the Human Body, has directed attention anew to this question. Marshal and Thin, in a paper upon the parasite of malaria read before the Royal Medical and Chirurgical Society (10), recorded the results of a study of malarial fevers occurring in the south of Spain, in which they speak strongly against the theory of Laveran, Pfeiffer, and others, that mosquitoes and other insects might serve as intermediate hosts. In the discussion (11) which this paper elicited, Manson said that the plasmodium did not necessarily require an intermediate host, and that he did not regard the flagellate bodies as degenerate forms, but rather as spores; as the malarial parasite had no power of leaving the body, it must be removed by some outside agent, and the geographical association of malaria and mosquitoes certainly suggested that the transmission may be effected by mosquitoes. He and Professor Lewis had proved that mosquitoes did bite birds, and, although the parasites of pigeon's blood were not identical with those of human malaria, this fact was suggestive. He thought that evidence proved that the malarial parasite did not live long when outside the bodies of man or mosquitoes. He also exhibited preparations of the blood from a mosquito's stomach, showing the parasite.

That Manson's theory, to be hereafter given, is not improbable, and that it has already received recognition as a possible source of malarial infection, is confirmed by the interest it has awakened among investigators. Thayer and Hewetson, in their admirable monograph upon the malarial fevers of Baltimore (12), say: "Inoculation experiments have given positive proof that infection may take place through the skin, which renders more plausible the old idea that insect bites may serve to convey the contagion."

"Particularly interesting in this connection are the remarkable researches of Theobald Smith (13), who has shown that the hæmocytozoon of Texas fever in cattle is conveyed from animal to animal by means of the cattle tick (*Boophilus bovis*)."

Ross (14), of India, believes that "malaria must be originally a disease among mosquitoes," and that "infection may arise from the bite or from deposition of the parasite on the skin of the patient or in his drinking water." Dr. Welch (15), of Johns Hopkins, states: "There seem to me at present only two theories of the mode of malarial infection which deserve serious consideration—viz., the theory that infection occurs through the air, and the theory that infection is the result of inoculation with the malarial parasite through the agency of mosquitoes and perhaps other suctorial insects." "The majority of authoritative writers on malaria have advocated the theory of air-borne infection, but we shall probably, since Manson's publication, hear more and more of the inoculation theory."

(*To be concluded.*)

SURGERY OF THE MIDDLE AND INFERIOR TURBINATED BODIES AND BONES.*

By ROBERT C. MYLES, M. D.,

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Before describing the operative procedures upon the turbinals it would be well to make some remarks concerning the practical and regional anatomy of these much-attacked little bodies, as well as the chief indications and necessities for positive interference with them. It is hardly necessary for me to state that they are attached to the outer wall of each nasal fossa. The inferior commences about an inch from the margin of the ala, and the middle an inch and five eighths to an inch and three quarters. The inferior averages about two inches in length; the middle about an inch and five eighths to three quarters of an inch. The following are the measurements I recently made of the turbinals in eight cadavers: No. 1, middle turbinal, an inch and three fifths; inferior turbinal, two inches; No. 2, inferior, two inches; middle, an inch and a third; No. 3, inferior, two inches; No. 4, boy, eleven years old, middle, an inch and a half; inferior, an inch and five eighths; No. 5, middle, an inch and seven eighths; inferior, two inches; No. 6, inferior, two inches and a quarter; middle, two inches; No. 7, inferior, two inches; No. 8, inferior, two inches and a sixth; middle, an inch and three quarters. They project inward and downward, are scroll-shaped at their lower anterior and middle borders, and are much thicker near their free margins. They become thinner as they approach the attachment to the outer walls. They are covered with mucous membrane and tissues that are subject to changes which have kept the rhinologists experimenting for the past twenty years. Lefferts, Jarvis, and Bosworth were the pioneers in observing these morbid conditions and suggesting remedies. The principal conditions that require surgical aid are hypertrophy, hyperplasia, intumescence (either continued or intermittent), polypoid changes in the middle turbinal, cysts, inoperable deflections or outgrowths from the sæpta, where the turbinals are in the way of operations upon the deeper regions, such as the antral, ethmoidal, frontal, or sphenoidal sinuses, and where the nasal fossæ are very narrow in their transverse diameters, with arched inferior turbinals which extend toward the sæptum at rather a more acute angle than the normal.

Nearly all the writers advocate some cautery application for destroying hypertrophy of the inferior turbinated bodies, chromic or nitric acid being used by the majority. I have found nitric acid the best for general use, but in individual cases I use chromic acid, the electric cautery, and Bosworth's or Jarvis's cold-wire snare, the electric cautery snare, or some excising instrument.

It has been my custom before operating upon the turbinated tissues to render the nasal vestibule aseptic. It is my opinion, which is based upon experience, that the infection of the turbinals comes either from the nasal vestibule or the rhinopharynx. As it is almost impossible to render the latter aseptic, I have directed most of my attention to rendering the anterior part of the nasal fossa immune. This is done by applying the substances usually employed for any surgical wound; a careful cleansing with alcohol and ether, followed by packing with cotton saturated with bichloride solution from 1 to 1,000 to 1 to 5,000. It is my opinion that infection frequently takes place by carrying the bacilli from the vibrissæ on the cotton swabs, probes, or forceps. I do not believe that infection is often conveyed through the respiration, but by contact with some infecting substance. Surgical wounds made in the nose during an epidemic of influenza are especially prone to infection and active suppuration. It was my custom for a long time to use Gleitsmann's platiniridium electric wire for the removal of an hypertrophied posterior tip, but now I usually employ the ordinary piano wire, Nos. 3 and 5, on account of the ease with which the tumor is encircled with the resilient loop. Of course, the rheostat and the traction must be definite and rather continuous, on account of the brittleness of the wire after cooling. I am aware that many consider the removal of the inferior turbinated body hardly justifiable under any circumstances. Several of the cases, which I shall report hereafter, convinced me that nothing short of the removal of the inferior turbinated bone would have given the desired relief. These patients had from time to time been in the hands of competent specialists, without marked benefit, and I had also exhausted all milder measures when I resorted to excision, which gave them entire relief. Turbinotomies produced the best and most brilliant results, received hearty indorsement from the patients, and left the nostrils in a good condition, both from a subjective and objective standpoint.

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* Read at the third annual meeting of the American Laryngological, Rhinological, and Otological Society, May 1, 2, and 3, 1897.

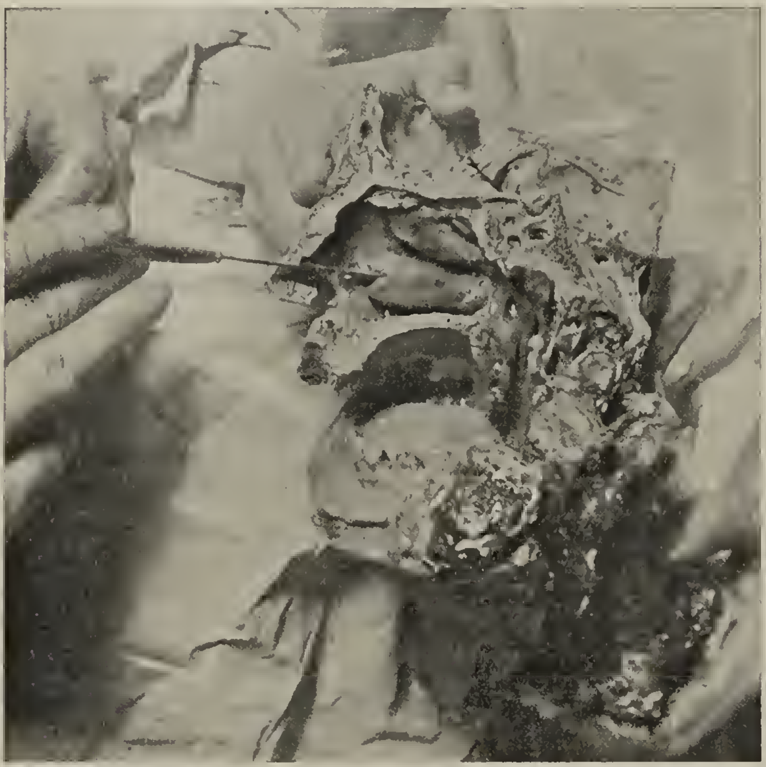

FIG. 1.—The first step in the operation of sawing through the anterior end of the middle turbinal (author's specimen).

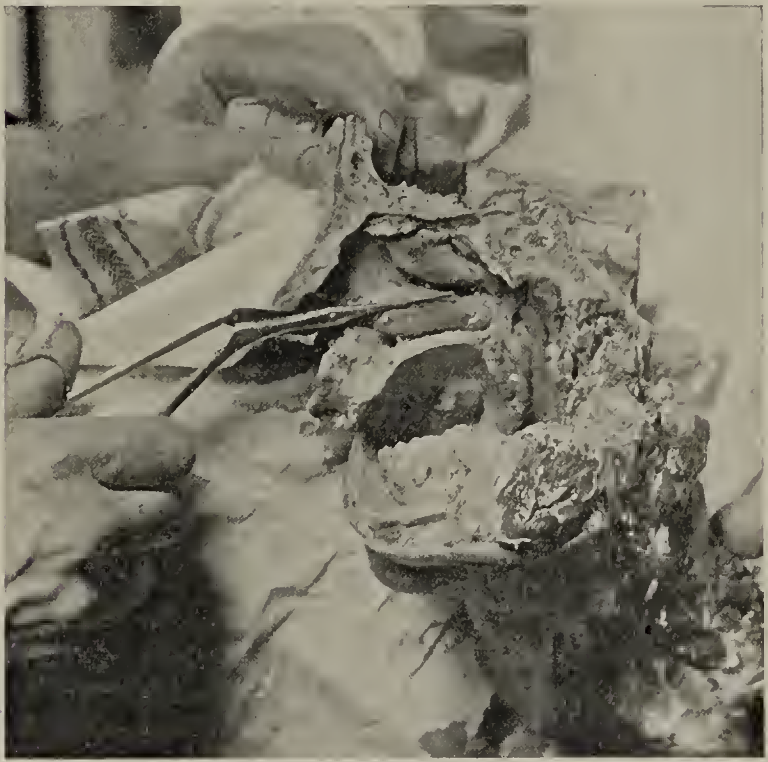

FIG. 2.—The second step of the operation of severing the inferior turbinal to the desired extent with Knight's scissors (author's specimen).

I will describe in detail the operation as usually performed by me. After thorough cocainization of both the inner and outer surfaces of the turbinal attachment to its periphery, I insert a small saw beneath the anterior end and make a slight section through the bone in a line with that of the intended operation, and then insert a Knight's scissors, making the section at the point which has been elected between the periphery and the attachment of bone; this cut is extended to the depth desired, say for one third, one half, or two thirds the bone; a Bosworth's snare is then introduced with No. 3 or 5 piano wire, and the loop is adjusted over whatever section of the posterior part of the bone one may wish to remove; then traction is made and the operation is completed. I always leave the posterior tip and part of the posterior or middle third of the body. This part can be contracted at any time, if necessary, by the application of the electric cautery or acid.

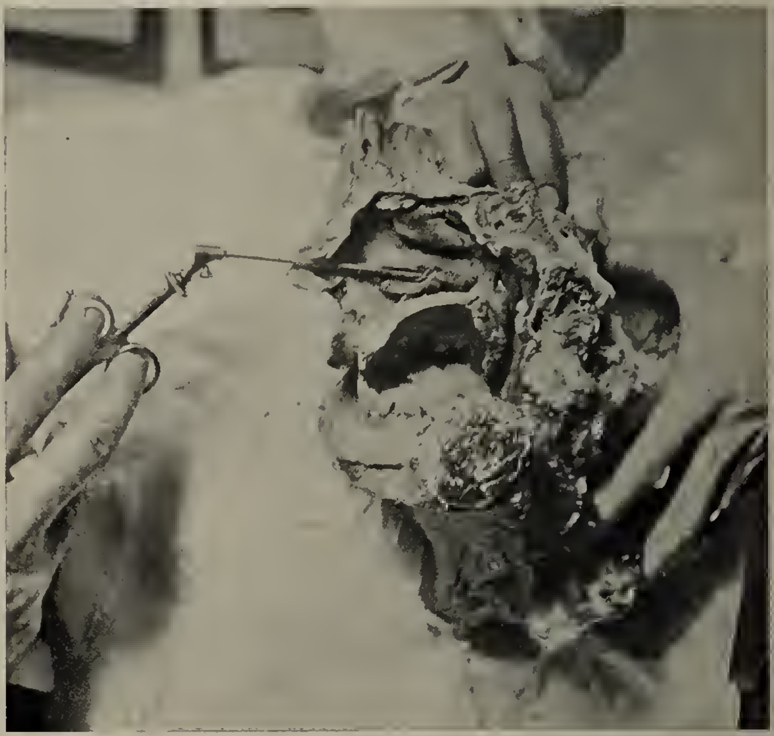

FIG. 3.—Bosworth's snare in position, third step, for the removal of a section of the inferior turbinal (author's specimen).

I have seen two cases of profuse and troublesome hæmorrhage follow removal of part of the inferior turbinated bone, and also some rather annoying bleeding after removal of the posterior tip with a cold-wire

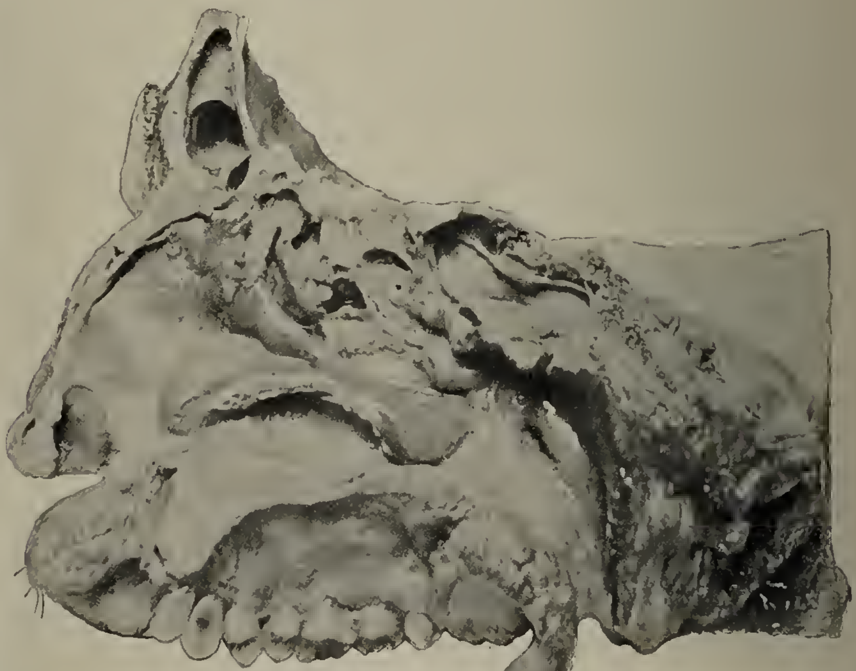

FIG. 4.—Condition of the parts after two thirds of the inferior turbinal have been removed (author's specimen).

snare. They occurred from a few hours to a week after the operations, and were readily controlled by firm pressure with tampons of tannic and gallic acid cotton. The posterior tip of the inferior turbinal usually enlarges after the bone has been removed. This may be due to increase of air space and to changes in the circulation.

In my opinion the operation of removal of a third to two thirds of the bone should never be performed when the sæptum is straight, the vestibule large, and the fossa roomy, for we are almost certain to produce a state of dryness of the nose and rhinopharynx, with incrustations, causing no end of disagreeable and irritable symptoms in these regions.

Figs. 1, 2, 3, and 4 illustrate the three steps of the operation, with the result in an extreme case. In some cases the division of the turbinated with the saw should be made at the junction of the anterior and middle thirds, and the severance with the snare should be made at the junction of the posterior and middle thirds. This would be appropriate in extreme ("inoperable") deflections of the bony and cartilaginous sæpta with an outgrowth pressing into the middle or inferior turbinal. In certain cases where the turbinals are hard and resistant and extend inward and downward, almost touching a fairly straight sæptum, the patients having a large breathing capacity, and especially when they are of gouty or rheumatic tendency, or subject to rose cold or hay fever, turbinotomy has been most magical in the relief of the distressing symptoms, and apparently attended with no unfavorable consequences.

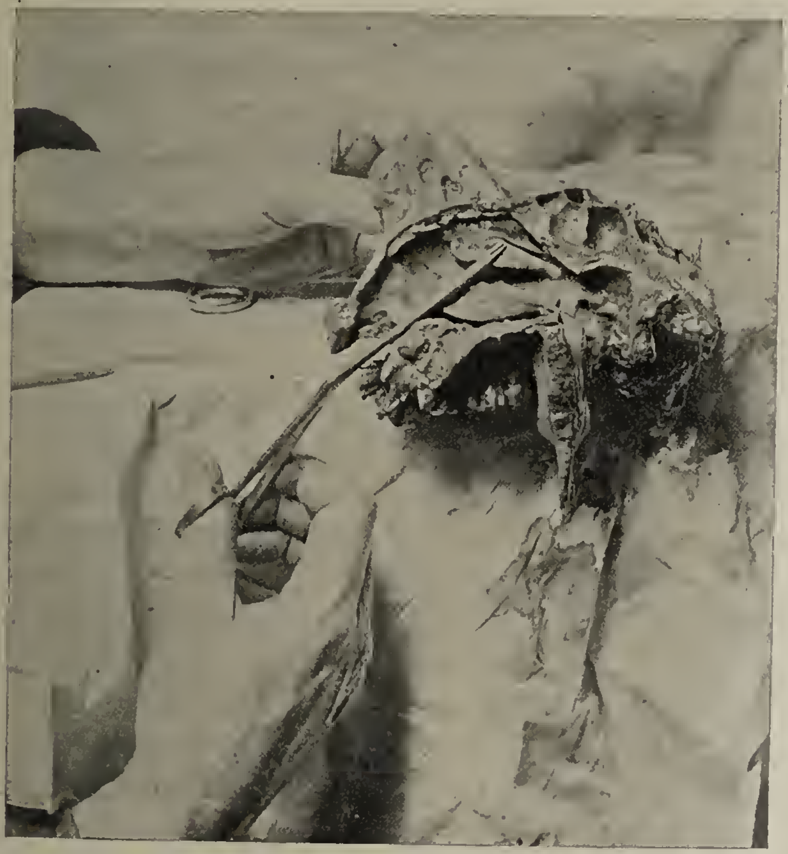

Fig. 5.—The lateral rongeur forceps in position ready for making the section (author's specimen).

Since Woakes first strongly advocated removal of the middle turbinated, many instruments and methods of procedure have been advocated, but, unfortunately, in many of the cases in which the operations are indicated the sæptum is so far deflected that it interferes with the introduction and manipulation of the instruments in this region. Frequently it requires a preliminary procedure to force the sæptum out of the field of the operation, and the use of slender and delicate instruments, with deft manipulation, in order to engage the obstructive parts to be removed. A part of this I have found can be accomplished better with some form of punch and die forceps, which can be operated at the distal end of a long shank, like the form which I present, which was devised by myself, and which I have found effective for making the first section in the majority of cases. Bosworth's snare, with a fine steel wire, has been more serviceable than any of the numerous instruments which I have used for making sections of the turbinals. I present two photographs illustrating the steps of the operation as it is usually performed by me. The lateral ethmoidal rongeur forceps is shown in position ready for making the section. Fig. 6 demonstrates the Bosworth snare in position ready for making the section of the anterior end of the middle turbinal close to its attachment to the ethmoidal bone. The posterior end of the middle turbinated can be removed by reversing the loop in the distal end of the snare. I have had no experience with Dr. Carmalt Jones's spokeshave, which has been highly praised by some foreign writers.

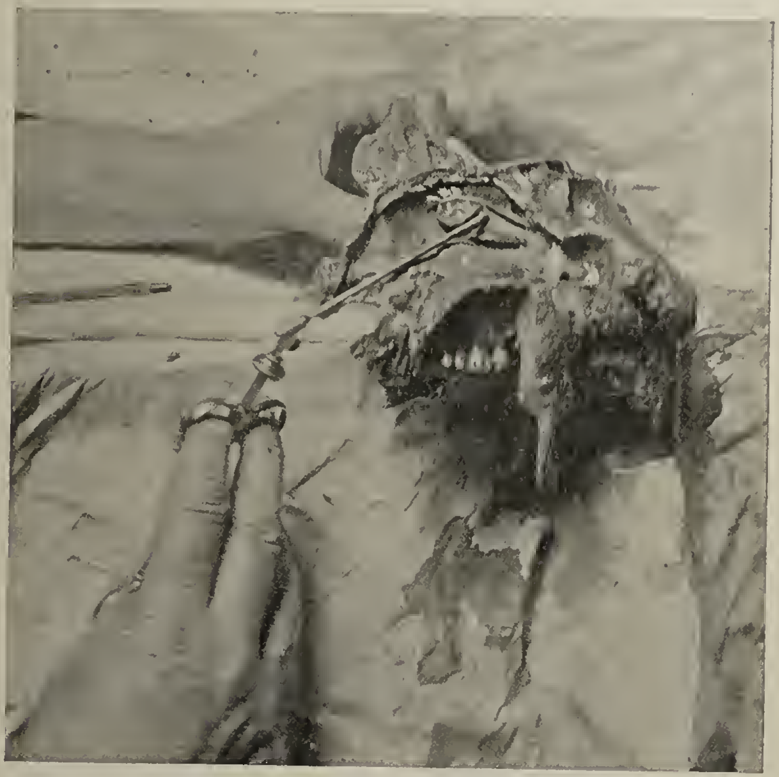

Fig. 6.—Bosworth's snare in position for making the section of the middle turbinal (author's specimen).

Mr. T. came to me in September, 1894. He complained of hay fever, rose cold, and almost complete occlusion of both nostrils, with attending phenomena of sleeplessness, and a generally miserable condition. I noticed that both inferior turbinals were in very close proximity to the floor and to the sæptum, the nostrils being extremely narrow. I made several applications of acid to the tissues, but the relief was not noticeable.

I then determined to remove the right inferior turbinated, and performed the operation in 1895, taking out a piece about an inch and a quarter long; this gave him immediate and decided relief for several months, and I then removed the inferior turbinated on the left to within half an inch of the posterior tip. The relief was decided, but in several months he returned and complained of slight stuffiness of the nose, and on examination I noticed that the posterior tips had become quite hypertrophied; I applied nitric acid to them, and he was again relieved. There has been no drying nor crusting, nor any unpleasant symptoms in regard to absence of moisture in the nose and throat.

Mrs. H., aged fifty-five years, applied to me in October, 1896, complaining of disagreeable stenosis of both nostrils with a watery discharge, and also said that she suffered very much in the spring, beginning about the middle of January, and apparently caused by the pollen from the roses in the South. Her sæptum was approximately straight; the turbinals extended close to the sæptum and the floor. I noticed that the slightest œdema would block the nostrils, and that there was not sufficient soft tissue on the bones to warrant respiratory space after removal. I removed the left inferior turbinated in October, 1896, and she was delighted with the immediate results, and the relief was so great throughout the winter that she reported in February, 1897, with stenosis of the right nostril; rose cold and hydrorrhœa slight in the left, but very severe rose cold, tinnitus aurium, and Eustachian-tube congestion on the right side. I treated the parts for a while and then removed the right inferior turbinated, with decided relief in respiration and to the ears. The tinnitus disappeared entirely. She has had no symptoms of dryness or lack of moisture in her throat and nose. The nasal vestibules are fortunately very small.

Mr. M. At the time he applied to me (1895) he had been operated upon for nasal stenosis by a prominent rhinologist. The anterior cartilage had been dissected out, and the sæptum had been sawed and trephined. He complained of impaired hearing, tinnitus aurium, and oppression in the back of the nose and difficulty in breathing. There was a large concavity on the left side of the posterior part of the sæptum, and a deflection pressing into the inferior turbinal at the point where it had been sawed and trephined; in other words, the concavity on the left side of the deflected vomer and perpendicular plate of the ethmoid extended over into the space that should be occupied by the right inferior turbinated body. I thought it was possible to remove enough from the convexity to secure freedom between itself and the turbinal. After removing the tissue down to the mucous membrane the turbinal still pressed firmly. The hearing was already seriously impaired, and I decided upon turbinotomy as the last resort. I sawed into the inferior turbinated about half an inch from its anterior end, and extended the cut upward about three quarters of an inch with Knight's scissors, also cut backward about an inch; I then passed the Bosworth snare over it, letting the loop extend upward and backward, and made a section at an obtuse angle; this left a large open space opposite the convexity, with decided relief to the breathing and to the ears, and there has been no crusting, drying, or any of the unpleasant symptoms usually attributed to turbinotomy.

Miss S., aged forty-five years, consulted me in October, 1896. She complained of stenosis on the left, with general discomfort in the nasal breathing. Her sæptum was deflected, with a moderate amount of thickening on the convex side pressing deeply into the outer wall of the middle and inferior turbinal. I sawed off all of the thickening down to the concavity, leaving the mucous membrane; this afforded only moderate relief. Soon the turbinal commenced to extend to its normal position, whence it had been pressed by the sæptum, and closed the nostril; I then resorted to turbinotomy, and sawed into the anterior end about a quarter of an inch from its attachment, and passed a No. 5 steel wire in a Bosworth snare upward and backward, and removed the turbinal at an obtuse angle; immediate relief was experienced without any unpleasant symptoms, and the patient claims that none of the objectionable subjective symptoms annoy her now.

DIFFERENTIATED INNERVATION OF THE OCULAR MUSCLES.

By CHALMER PRENTICE, M. D.,
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In the *New York Medical Journal* dated July 24, 1897, there is an article entitled Strabismus Theories, written by me. In the absence of further elaboration of the subject, there might be the implication that in the writer's opinion the internal rectus was the muscle chiefly concerned in strabismus convergens. But this is not my view.

In 1895 I suggested, as an addition to the generally accepted physiological actions of the ocular muscles, the following: When the posterior part of the eye's equator, which is relatively parallel to the internal and external recti during a primary position, is thrown below a parallelism by the eye being turned upward, a contraction of these lateral muscles assists in turning the eyeball upward. Conversely, when the eye is thrown downward so that the posterior part of this equator lies above the line of these muscles, their contraction will assist in turning the eye downward. When the eye is turned outward under cognate conditions the superior and inferior recti, at the advantageous point, would have a tendency to assist in turning the eye outward, or abducting it. When the eye is adducted to a certain point, they would assist in turning the eye toward the nose. Of these movements, the latter is the only one that has been commonly accorded to these ocular muscles. I believe it has been universal, in analyzing the action of the various ocular muscles, to treat the various dynamic influences in commission as if all the recti muscles had pin-point attachments to the eyeball and simple, or primary, innervations only, but not in so many words. The dynamic influences would be variable in accordance with the position of the eye at the time this simple innervation took place; but, no matter what position the eye would be in, the innervation would be a simple or primary one, or the same for varying positions.

These cuts (Figs. 1 and 2) illustrate from a mechanical standpoint and tend to show that simple innervation is improbable, and that differentiated innervation is necessary and the fact.

Fig. 1 illustrates the eye in a secondary position, with the visual axis elevated or turned upward. On the simple innervation theory it represents the condition of the external, also the internal rectus muscle. In this position the lower portion of these muscles is put severely upon the stretch, while the upper portion is wrinkled or folded upon itself, as illustrated in the cut. Now, to rotate the eye outward from this position by a simple innervation, all of the fibres of the muscle being equally innervated, they would endeavor to assume the same length; but, owing to this secondary position, the lower edge would be on the stretch and longer, and thus the lower fibres would do all or the greater share of the pulling. This would tend to draw the eye down and destroy the upward rotation by antagonizing the superior rectus. To maintain a harmony of this upward rotation with an outward rotation or abduction, the superior fibres of the external rectus have a greater innervation, and the contiguous fibres below a little less, graduated to a minimum innervation at the lower aspect of the muscle, so that the pull on the muscle is even throughout, as represented in Fig. 2. Such innervation gives the muscles even, smooth contraction throughout, and all the necessary advantages, as a physiological aid, in rotating the eyeball in its numerous secondary positions. It will be readily seen that each secondary position above or below the primary requires a relative change of innervation throughout the muscle across it.

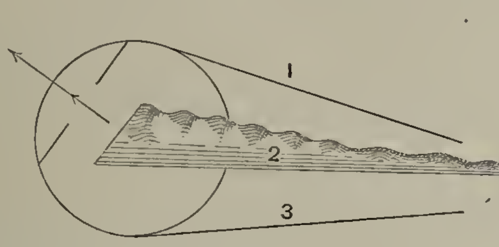

FIG. 1.—1, superior rectus ; 2, external rectus ; 3, inferior rectus.

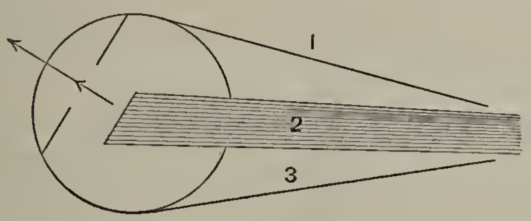

FIG. 2.—1, superior rectus ; 2, external rectus ; 3, inferior rectus.

Each and all of the many positions an eye assumes call upon the centres for a different innervation for each of the ocular muscles that is called into action.

Returning to our theory previously mentioned, we can see how a contraction of the superior aspects of the internal and external recti would turn the eye upward; the inferior aspects, downward. A contraction of the external aspects of the superior and inferior recti would rotate the eye outward, and the internal aspects inward.

I have made quite a number of complete divisions of superior recti, and in no case immediately after the operation have I seen the upward rotation entirely destroyed. I have never kept a careful record of the manifestations immediately after operations, but in cases of extreme effect I should estimate that fully sixty per cent. of the upward rotation was left. Now, after the division of the superior rectus, there is nothing to rotate the eye upward but the contraction of the superior edges of the external and internal recti. To my mind, this proves the theory of differentiated innervation of the ocular muscles.

Oculists have frequently met with cases of convergent strabismus where a complete division and liberation of all the attachments of the internal rectus have failed to relieve the convergence. I have in mind a number of cases in which I have made a division of the superior rectus for the correction of apparent vertical deviation. In a majority of instances this has let the eye down and caused it to turn out after the internal tenotomy failed. I have frequently seen convergent conditions and esophorias entirely relieved by simply giving attention to some defect in the vertical muscles. It may be noted that in such operations on the superior rectus only one of the two muscles whose internal aspects are at fault has been corrected, the other contracted condition remaining. But usually sufficient relief follows the cutting of one muscle to allow the eye to diverge. The uncut *vis-à-vis* continues for a short time to have more or less of its contracted condition on its internal aspect, and while this remains it usually gives evidence of a tortional disturbance; but, in time, it gradually disappears, and the tortional disturbance with it. In the majority of such cases of convergent strabismus I believe the convergence to be due to a shortness of the inner aspect of the superior and inferior recti, in which there is a graduated tonic spasm greatest at the inner aspect of the muscle, and graduated to a less degree across the muscle, to its outer aspect, in conjunction with a more or less similar condition in the internal rectus. The faulty relations between the internal and the superior and inferior rectus muscles may be exceedingly variable. To account for the physiological action of the muscles and their motor anomalies on such a theory widens the range in which we seek for causes. Due to some peculiar habit of fixation in use, we can see that a shortening by tonic spasm of the superior aspects of the internus and externus could produce a hyperphoria; and in such a case the superior rectus would not be the only muscle at fault. On this differentiated theory it will be seen that all the motor anomalies receive a new list of defective muscles as causes of the anomalies.

It is not the purpose of this paper to give an exhaustive analysis, but simply to go sufficiently far to offer the theory of differentiated and graduated innervation.

If, and I think it seems the more probable, this differentiated innervation is the fact in the action of the ocular muscles, it becomes a profound subject when we think that for every possible point within the wide range of fixation a different innervation takes place in each of the six extrinsic ocular muscles. These points of fixation would be a one-minute angle, which is the angle of vision. This is a definite area at any fixed distance. In the vertical meridian alone we have over seven thousand different points of fixation, or minute angles. To approximate the entire range of fixations in all meridians I will take the square of six thousand, which is thirty-six millions of minute angles or points on which one eye can possibly fix. So the variations of innervation in one muscle would amount to thirty-six millions. The variations of innervation in six muscles would be six times that—two hundred and sixteen millions; in the two eyes, four hundred and thirty-two millions. True, these figures are purely speculative, but to me the whole thing seems highly probable.

If differentiated innervation is true in the action of the ocular muscles, it also takes place in other muscles of the body, in which case the variations of innervation throughout the animal economy involve a problem almost, if not quite, as incomprehensible as that of time and space.

THE DIAGNOSIS AND TREATMENT OF CYSTITIS.*

By RAMON GUITÉRAS, M. D.

CYSTITIS is an inflammation of the bladder. It is one of the most common of the genito-urinary diseases, and is richer in its classifications, causes, and pathology than any other.

The classifications of this disease are numerous and as follows: Acute, subacute, and chronic, depending on the intensity of the symptoms and their duration; catarrhal, purulent, and hæmorrhagic, dependent on some of the products of inflammation found in the urine; superficial, interstitial, and productive, depending on the pathological conditions of the bladder; gonorrhœal, tuberculous, and calculous, dependent upon certain causes which produce it.

In this paper, however, it is not my intention to give an elaborate and scientific discourse on the subject, but to simply describe the various forms of cystitis in a way to carry briefly as clear an idea as possible of the conditions that exist in this disease, and the best manner of treating them generally and locally. I will therefore endeavor to treat the subject as the general practitioner looks upon it. He speaks of acute and chronic cystitis according to its severity and duration, and wants to know what the cause is in each case in order that he may remove it, hoping in this way to cure the disease. It is therefore most important, besides describing the symptoms, to consider the age, sex, history, and the analysis of the urine, and to make a complete physical examination with and without instruments.

A visual examination by the cystoscope is of the greatest aid, but it will not be especially dwelt upon here, as it is not of frequent use in the hands of the general practitioner.

Symptoms.—It must be borne in mind, however, that the same symptoms occur in most cases of cystitis, but that the history places them in such a group that they will point more to one variety than to another, and the examination usually confirms it. The ever-existing symptoms of cystitis, both acute and chronic, are frequency of urination, pain, pus, and perhaps blood in the urine. And on the intensity and duration of these symptoms the degrees of cystitis as spoken of depend.

Acute is one of short duration, when the pain and frequency are intense.

Subacute, when they are not so marked.

Chronic, when they have existed for some time. (In chronic cases the symptoms are generally subacute, although they may have acute exacerbations, which are spoken of as acute attacks.)

The symptoms, however—pain, pus in the urine, and frequency of urination—must be present, and they must emanate from the bladder. They may come from other causes, singly or combined. If singly, the disease is not cystitis; if combined, they may result from two or more diseases.

Almost all diseases of the genito-urinary tract, from the posterior urethra to the kidney, cause frequency of urination and often pain directed to the small of the back, the loins, the pelvis, the perinæum, the thighs, or the testes, and if in connection with these two symptoms there is pus, one might be led to think that cystitis was present. It is therefore important to feel certain that the pus comes from the bladder and not from the urethra or kidney. Of this we can usually be sure by the history of the disease and its evident causes. If, however, there is a doubt, it might be well to examine the urethra, anterior and posterior, for inflammation and purulent discharge, and then turn our attention to the urine in the bladder to see whether the pus in it comes from an inflammation of the bladder wall or from the kidneys or ureters. Of course, we must remember that in certain nervous troubles pain and frequency or even retention are associated symptoms, and if in the same individual pus is found in the urine a disease of the bladder might be suspected. In the same way cystitis might suggest itself in cases of rectal or uterine diseases, which occasionally give rise to pain and to frequency of urination.

There are subjective and objective symptoms in cystitis as in other diseases. The subjective are frequency of urination, pain, and reflex nervous symptoms, as noticed by the patient. The objective are those that are observed by the physician on inspection, by the appearance and analysis of the urine, and by examination with and without instruments.

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* Read before the Society of the Alumni of the City (Charity) Hospital, December 8, 1897.

Ætiology.—Much can be learned of the cause of the disease by considering how this trouble has been ushered in, and looking into the personal and family history of the individual. As, for instance, an acute urethritis is usually the cause of an acute cystitis that may result in chronic cystitis if not treated properly. Stricture or enlarged prostate would cause a chronic obstructive cystitis. Tuberculosis elsewhere in the individual or in his family would point to a tuberculous cystitis. A uric-acid diathesis, oxaluria, or phosphatic urine might give rise to a calculous cystitis. A family history of cancer would indicate a malignant disease of the bladder, in cases where the cystitis was secondary to a vesical growth or tumor.

These causes of chronic cystitis may exist for a long time before the cystitis develops, and they give rise to a certain chain of bladder symptoms, the history of which greatly facilitates the diagnosis.

Age is of great importance for excluding certain varieties and suggesting others—*e. g.*, in children acute cystitis is rare, as it is generally a sequel of gonorrhœa; chronic cystitis depending upon enlarged prostate or stricture is out of the question; while calcular cystitis might occur, especially in certain countries.

In youth or early manhood acute cystitis is very common; chronic cystitis depending upon stricture is frequent; whereas that variety depending upon enlarged prostate is most uncommon. Tuberculous cystitis is not rare, and the forms depending upon stone and tumor are occasionally found.

In old age, acute cystitis, excepting exacerbations of the chronic form, is rare; chronic cystitis depending upon enlarged prostate is common; and those depending upon stones and tumors are not infrequent.

Sex should be considered, as by far the greatest number of cases of cystitis occur in men. The freedom of women from this trouble is probably due to the more complete separation of the organs of the urinary tract from those of the genital, the better drainage, and the nearness of the viscus to the surface of the body. For example, acute cystitis, which usually follows gonorrhœa, would not be so apt to occur, as gonorrhœa in women is generally limited to the genital tract. Chronic cystitis is much rarer, as two of its principal causes, enlarged prostate and strictures, would not be present. Tubercle would either occur primarily or only be second to that of the kidney, and would not be prone to extend from the genital apparatus, as in men. Stones coming through the kidney are more likely to pass through the urethra, as it is wider and shorter. Tumors do not occur so frequently as in men, although there is no good reason why they should be less frequent.

Acute Cystitis.—Acute cystitis is an acute inflammation of the walls of the bladder. It frequently follows urethritis, and occurs generally during the third or fourth week, due to an extension of the disease, to injections made in such a manner that pus is forced into the bladder, or to pushing the pus in by means of catheters or other instruments.

Most of the cases occurring with urethritis, that are spoken of as inflammation of the bladder, are not cases of acute cystitis, but of acute posterior urethritis. There are certain conditions that predispose to acute cystitis in an individual suffering from gonorrhœa. These are congestion or distention of the bladder from whatsoever cause; undue exercise, as riding the bicycle or horseback; and exposure to wet and cold. The prostatic urethra is involved in most cases of acute cystitis, although the most marked region of the inflammation is that of the trigone.

In the beginning of acute cystitis we often have fever, depression, nausea, loss of appetite, constipation, etc., besides the three cardinal symptoms of the disease—namely, increased frequency of urination, pain, and pus in the urine. Hæmaturia is also often present.

Frequent micturition is about the first symptom, and is sometimes so constant during both day and night as to be mistaken for incontinence. It is increased by jumping, jarring, standing, etc.

Pain varies much in intensity, corresponding in severity to the degree of frequency. It is principally in the suprapubic region, and is usually most marked either just before urinating or on finishing.

Pus in the urine shows itself by the fluid appearing cloudy or turbid when first voided. If passed in three glasses and the urine is acid, the first will contain considerable pus and some urethral shreds, the second less pus, and the third more.

Hæmaturia is not a constant symptom. It occurs in very acute cases where there is a great deal of congestion, and is due to the rupture of the capillaries. The blood may be mixed with the urine, but is usually voided at the end of micturition.

Physical examination is not necessary in these cases, and would reveal little.

The cystoscope should never be used in cases of acute cystitis, as it wounds the mucous membrane of the bladder and tends to aggravate the inflammation. It is, however, sometimes used for purposes of investigation, in which case the appearance of the inside of the bladder wall, as seen through the instrument, is that of a reddened, œdematous, and very much congested mucous membrane, the vessels of which are dilated. The epithelium is seen to have been cast off in places, leaving erosions, or even ulcerations, and is collected in clumps or long thready streamers, which float from the bladder wall. Hæmorrhagic spots or streaks are sometimes noticed.

The urine in acute cystitis is usually of a normal amount; of an acid reaction when voided, but soon becoming alkaline; of a normal specific gravity, and of a turbid and smoky appearance. By the microscope we find much pus, bladder epithelium, often blood, bacteria, and a few crystals.

Chronic Cystitis.—This is always secondary to some other trouble. The cause may be an extension of inflammation from the urethra or kidney, as in gonorrhœa or tuberculosis; or it may be due to the presence of an irritating medium free in its interior or in its walls, as stone, tubercle, or tumor; or it may be due to an obstruction to the outflow of the urine, as in stricture or enlarged prostate.

In all these cases there are active and predisposing causes, the active being the entrance of pathogenic germs into the bladder, when the predisposing causes are present. Among the predisposing causes first of all we have congestion. This may be due to the condition of the urine, such as the presence of superabundant crystals of uric acid or oxalate of calcium; to certain drugs, such as cantharides; to overindulgence in alcoholics or sexual excitement; to the presence of irritating foreign bodies, such as a calculus; or to the presence in the bladder wall of tubercle or tumors.

The obstructive causes are stricture and enlarged prostate. These cause congestion by the effort of the bladder to overcome the obstruction, also by distention of the bladder with residual urine. In stricture there is usually a little dilatation behind it, which allows a small amount of residual urine to remain there after micturition, which may decompose and keep up urethral irritation and favor the local growth of microbes in a place where they may be easily pushed into the bladder by instrumentation. In prostatitis there is an obstruction to the return of the blood from the vesical veins, as they empty into the compressed prostatic veins, and thus there is a passive congestion, most marked when the patient is quiet at night, and not as much when he is about and muscular activity favors the circulation.

Under these conditions we can see that microbic infection is easy by the use of unclean instruments, when introduced for the purpose of making a diagnosis or for the withdrawal of urine in retention.

In chronic cystitis the symptoms vary much in their development, duration, intensity, and relation to one another. The presence of any one of them is not distinctive of cystitis. Pus in the urine is the only symptom which is never absent, but this may occur in many other conditions, as in disease of the kidney or urethra. Frequent micturition, pain, and pus are the symptoms usually present, and hæmaturia occasionally.

When a patient with these symptoms—namely, frequency of urination, pain, and pus in the urine—presents himself, we judge that he has cystitis, but it is necessary to go into the history of the case in order to find out the cause of his trouble. The following histories would point to certain varieties of chronic cystitis:

Case I.—A young man from twenty to thirty years of age presents himself with a history of having had an acute urethritis some months or years ago, followed by an acute inflammation of the bladder, which caused him to urinate very frequently, during both day and night, with considerable pain and tenesmus. He says that since these acute symptoms subsided the pain and frequency have continued in a less marked degree, but are increased on dissipating, overindulgence of any kind, or exposure to cold or wet weather. On questioning him regarding his urine, he says that it is light in color, but is thick and cloudy on standing, and has a disagreeable odor.

Such a case would point to one of chronic cystitis following an acute attack.

Case II.—A man from thirty-five to forty-five years of age presents himself with a history of having had several attacks of urethritis some fifteen or twenty years ago, each one of which lasted for some months, ending in a gleety discharge that slowly wore itself away. He says that since then he has had no trouble until some months ago, when he noticed an increased frequency of urination, not only during the day but also at night. On one or two occasions during this period he was unable to pass his urine, and has had to have it drawn by means of a catheter, since when he has been obliged to urinate still more frequently and with a considerable amount of pain. On questioning him, he states that his stream is generally fine though forcible, but after dissipating it is at times quite without force, and even dribbling. He also says that his urine appears to be thicker and more cloudy than before.

Such a history would point to chronic cystitis due to stricture.

Case III.—A young man, from eighteen to thirty years of age, with no venereal history, presents himself, complaining of frequency of urination attended by a great amount of pain. He says that the pain and frequency have been increasing gradually until he is obliged to urinate every few minutes both day and night without obtaining much relief from the pain behind the pubes and in the mid-penis. On several occasions he has noticed blood in his urine and at the end of micturition. He says that his urine has for some time been thick and turbid. On questioning him, he states that when a child he could not hold his water at night, and that he had been considered rather delicate, as he had suffered from abscesses in the neck, frequent cough, and swollen joints at times. He says that there have been several deaths from consumption in the family, but otherwise they have been strong and healthy.

Such a history would point to tuberculous cystitis.

Case IV.—A man of any age presents himself with a history of having had a frequency of urination during the last few months or years, accompanied by considerable pain along the urethra, at the end of his penis, and occasionally shooting into the testes. This occurs principally during the day, and especially if he is active and is shaken up considerably, although his nights are very comfortable. He complains of his stream of urine stopping at times, causing him considerable pain and tenesmus, which diminishes, when it starts up again after he has waited a few minutes or changed his position. He says that his urine is thick and turbid, and that he has occasionally noticed blood in his urine or following its passage. On questioning him he states that formerly on several occasions he noticed a reddish deposit (brick dust) in his chamber mornings, that he occasionally has shooting pains in his loins, colicky in character, and that he has suffered frequently from attacks of indigestion, rheumatism, or gout.

Such a history would point to chronic cystitis due to stone in the bladder.

Case V.—A man past middle age, who has never, or not recently, had any urethral trouble, presents himself with a history of always having voided his urine without difficulty until recently, when he has noticed that his stream is feeble though of good size, and that he has urinated with greater frequency, especially at night. He complains of quite a severe pain on finishing the act of micturition, and a heavy feeling in his perinæum and his lower abdomen. He says that he occasionally has headaches, nausea, pain in the back, and constipation, especially after overindulgence, taking cold, or wetting his feet. On questioning him, he states that his urine is thick and of an offensive odor, and that he has had several attacks of retention, on which occasions it was with great difficulty that instruments could be made to enter the bladder to draw off the urine.

Such a history would point to chronic cystitis due to enlarged prostate.

Case VI.—A man of about middle age presents himself with a history of hæmorrhages from the bladder, occurring with more or less frequency, not depending on anything in particular, and occasionally taking place while he is asleep. He says that these hæmorrhages are now occurring with greater frequency; that the blood is sometimes passed mixed with the urine, changing its color; at other times in clots, and sometimes as pure blood after urinating. He has noticed of late that the frequency of urination has increased and is associated with considerable pain in the bladder. At times he has not been able to urinate, and has been obliged to have his urine drawn by a physician, who encountered so many blood-clots that he had to inject hot water to dissolve them. He states that since this interference his urine has been thicker and contains frequently a peculiar-looking deposit on settling.

Such a history would point to chronic cystitis due to tumor.

These histories, although they point to certain varieties of cystitis and show us what we must look for, are nevertheless not positive descriptions of them, and an examination of the urine, as well as a physical examination, with and without instruments, is necessary to determine if we are correct in what we have surmised.

Urine.—In chronic cystitis the urine is generally light in color, alkaline, of a lowered specific gravity, containing a slight amount of albumin, perhaps some blood, and pus in abundance. On examining it in three glasses, as it is evacuated from the bladder, the first and the third usually contain the most pus. When the urine is allowed to settle, it forms a more or less dense deposit on the bottom of the glass, above which there is a cloud of muco-pus. When it is ammoniacal the odor is characteristic, and there is a glairy mucilaginous substance present, which adheres to the vessel in which it is contained. Bladder epithelium of the first and second layers is found, especially in the forms where ulceration is present, as in tuberculous cystitis. In cases due to stone in the bladder, crystals are often found in great abundance. In tumor cases fragments of the tumor may be seen, and the case may be diagnosticated by this alone. In all cases certain microbes of suppuration are present, such as the *Staphylococcus pyogenes aureus,* the *Streptococcus pyogenes,* the *Urobacillus liquefaciens,* the *Bacillus coli communis,* and in cases of tuberculous cystitis the tubercle bacillus.

In making a physicial examination in these cases to assist us in our diagnosis, percussion and palpation suprapubically and the rectal touch are of the greatest importance. The percussion and palpation will show us dilatation of the bladder if it is present. Rectal examination will show us enlargement of the prostate, and at times enable us to feel a stone or outline an intravesical tumor. It will also often help us to fortify our diagnosis of a tuberculous cystitis by revealing tuberculous deposits in the prostate or seminal vesicles.

Examination by instruments is also of the greatest importance, as in this way, by urethral sounds and bougies, we can determine the presence and location of strictures, or the enlargement of the prostate gland and its variety.

By means of the catheter we can determine the amount of the residual urine in the bladder and its character. With a stone searcher we can detect a vesical calculus if present, or at times gain important information regarding a bladder tumor.

The cystoscope is, however, the most important instrument. It shows the bladder wall to have a light, gelatinous, thickened look. Clumps and streamers of muco-pus can be observed attached to the surface. If inflammatory congestion is present, the part congested will have a dark-red color. If tubercular cystitis is present, we may see small ulcers with yellowish centres (sloughy), or large, irregular, shallow ulcers with white phosphatic deposits; the edges of these may be thickened and gelatinous-looking or red and inflamed. If a stone is present, it will not only be detected by touch with the cystoscope, but can also be plainly seen lying in the bladder or encysted in its wall. By this means a tumor can be distinctly seen, and a diagnosis may be made as to its malignancy or non-malignancy, as to whether it is sessile or pedunculated, and as to whether an operation can be easily performed or not.

Acute Cystitis, Treatment.—In these cases rest in a recumbent position, mild alkaline diluents, urinary disinfectants, antispasmodics, and hot sitz baths are of great service, and should be employed for some days before surgical interference is resorted to. When the urethro-vesical tract is in such a condition that interference can be tolerated, it is my custom to resort to irrigation of a nitrate-of-silver solution, beginning with a strength of 1 in 16,000 and increasing gradually. This is allowed to flow into the bladder through the anterior urethra by the force of gravity from a fountain syringe, the height of the receptacle being sufficient to produce enough pressure to overcome the resistance of the cut-off muscle. As soon as the patient feels the tension of the fluid in the bladder the flow is discontinued and he is directed to stand up and to empty the bladder. These may be given every day, or every second day, as they best agree with the patient. In cases where the inflammation is too acute to tolerate irrigations, instillations of nitrate of silver are of great value. They should be given with the Ultzmann syringe, beginning with a strength of a grain to an ounce and increasing up to ten grains if necessary. From five to twenty drops of such a solution may be instilled at one time. Injections of two or three ounces of a weak silver solution can also be made through a velvet-eyed catheter by means of a Guyon syringe. Irrigations and injections of permanganate of potassium or boric acid are also of value.

Chronic Cystitis.—In all cases of this disease, due to whatever cause, the treatment of the bladder inflammation should be carried out by means of local and internal remedies until it is in such a condition that radical measures can be tolerated. The best internal remedies are the so-called urinary antiseptics—namely, benzoic acid, benzoate of sodium, boric acid, oil of wintergreen, eucalyptol, and urotropine. The patient should also drink large quantities of water and should be careful in regard to diet, avoiding stimulants, pepper, mustard, and all other articles of food which tend to produce irritating properties in the urine. Locally, the bladder should be washed out once or twice a day, or every other day, with a solution of boro-glyceride, boric acid, permanganate of potassium, nitrate of silver, bichloride of mercury, or Thiersch's solution, as best agrees with the patient. Sometimes the condition is such that this can not be well carried out, as in cases of tight urethral stricture. In such an event an operation should be performed after having tried to improve the condition of the urine by diet and internal remedies.

In cystitis due to stricture it is well to dilate it if we can do so; but if it is of very small calibre and very resistant urethrotomy should be resorted to by means of the Otis or Maisonneuve urethrotome, if it is anterior, or by an external perineal operation, if it is deep. The drainage following an external perineal operation is of the greatest value in cases of cystitis.

In cystitis due to enlarged prostate many methods of operation have been advised. Here the condition of the urine can be materially improved by washing out the bladder with antiseptic solutions. The catheter employed for this purpose should be of the soft-rubber variety if it can be introduced, and at present we have very much improved instruments of this kind of the elbowed variety. If this does not succeed in passing the impediment, however, the woven catheter should be used instead.

Catheters should be carefully cared for and kept as aseptic as possible.

At each treatment the residual urine should be drawn off, the bladder washed out, and a little of the solution allowed to remain in the cavity.

One of the troublesome complications of enlarged prostate is retention of urine. This usually comes on after exposure to cold, or excesses of eating and drinking. In these cases morphine should be injected hypodermically and a hot bath given. If this fails to produce urination, a catheter should be passed, if possible, and part of the urine withdrawn. If a catheter can not be passed, aspiration should be performed suprapubically and about one half of the urine removed, after which the patient should be put to bed with hot applications over the pubes and the perinæum. The reduction of bladder tension and prostatic œdema obtained in this way is usually sufficient to permit of catheterism or even free urination.

During the last few years the methods for the radical cure of enlarged prostate have been improved and increased in number, as, for instance:

1. Resection of a portion of the vas deferens.
2. Castration.
3. Enucleation of the prostate.
4. Incisions of the prostate (Bottini's method).
5. The formation of a permanent fistula.

Much has been said about these different methods, and the advocates of each form of treatment seem satisfied that their own procedure is the best. Ligation of the vas deferens is certainly the easiest of these operations, while prostatectomy is the hardest. Castration, which is a simple procedure and not considered dangerous, we are surprised to find has resulted in as large a mortality as prostatectomy without producing such a good result in the cases of survival. In comparing the mortality of the ligation of the vas deferens with the latter two operations we do not notice much difference, and the results, so far as reduction of the prostate is concerned, have not been satisfactory. Notwithstanding this small mortality that ligation of the vas deferens is supposed to have, one of our most celebrated surgeons has had a death-rate of a hundred per cent., and another of thirty-three per cent. After castration a number of those surviving the operation have had some nervous trouble; some have become maniacal, some have lost their mental balance, while others have been taken with melancholia.

In many of those who have died some time after this operation the cause of death, as disclosed by the autopsy, has been pyelonephritis (surgical kidney). The mortality of castration is about twenty per cent.

Prostatectomy seems to be the most radical method of treating this disease, and the technique of the operation has been so greatly improved of late that surgeons no longer look upon it as a hopeless operation. The cases requiring it are those in which there is a complete retention of urine, and the patient has to depend almost entirely upon his catheter; also when the tenesmus and irritability of the bladder are so great that catheterism and washing out of the bladder do not relieve them. Again, when the cystitis is very marked and when there is hæmaturia and an increase in the amount of residual urine. The methods of operating in these cases are by a suprapubic and by a perineal incision. In the suprapubic operation, after a cystotomy has been performed, the mucous membrane over the prostate is incised and the gland is enucleated with the forefinger of one hand, while counter pressure is made on the perinæum with the other. In the perineal method the bladder is opened suprapubically in addition to the perineal incision, but here the prostate is enucleated by the forefinger of the perineal hand, while the fingers of the other hand in the bladder exert counterpressure.

The mortality of prostatectomy and castration is about the same, but I do not think that a fair comparison can be made as yet, as the cases operated upon by castration are usually so far advanced that the operator is afraid to perform an enucleation.

The Bottini method is exactly suited for the cases where the operator feels that it would be rather dangerous to perform a prostatectomy, and when, on account of difficult and painful catheterism, it is of the utmost importance to relieve the patient of the impediment to urination if possible. In middle-aged men with healthy kidneys and a large, succulent prostate that can easily be shelled out by the finger, prostatectomy is of the greatest value. In old men, however, or in those whose kidneys or bladders have suffered from the obstruction in a marked degree, the Bottini operation is certainly the best, as it is performed under cocaine and causes the patient hardly any febrile reaction. There is also very little loss of blood, and there is almost no danger of septic infection, as the ducts of the absorbents are closed by the cauterization.

Bottini's operation consists in burning grooves through the prostate, where the obstruction is the greatest, by means of an instrument called an incisor, which is connected with a galvano-cautery battery. This instrument, as modified by Freudenberg, resembles a lithotrite. It has two arms, a male and a female, the former of which can be heated and is moved backward and forward by a screw in the handle of the instrument. It is introduced into the bladder and the closed arms are hooked behind the prostate; the current is then turned on, and by means of the screw in the handle the red-hot male blade is drawn forward through the prostate, making a deep groove in it. This may be repeated several times, the order usually being to first make a groove through the prostate gland above, then below, and then on the most hypertrophied side. The surrounding tissues are prevented from being burned by a cooling apparatus connected with the instrument.

In cases of advanced prostatic hypertrophy, with complications, a permanent suprapubic or perineal fistula is often made for drainage, and of these the former method seems to be the best borne by the patient.

In tuberculous cystitis surgical interference is generally of no service, and internal medication seems to be preferable. If pain or ulceration is extreme, a suprapubic cystotomy may be performed for drainage and to relieve the patient. Bladder irrigations and injections generally fail. Internal remedies are sometimes of value. Probably plenty of fresh air, nourishing food, and tonics, combined with rest and a dry, warm, and uniform climate, will produce the best results.

In cystitis dependent upon vesical calculus the stone should be removed. This can be done by suprapubic or perineal lithotomy, or by crushing it (litholapaxy), after which last operation the fragments can quickly be removed by means of an evacuator. It is strange to observe that notwithstanding the fact that the crushing operation is the safest and causes far less inconvenience, confinement to bed, and after-treatment, it seems of late to have lost its popularity in this country, and to have been in a measure replaced by the suprapubic operation. In Europe, however, it still justly retains its popularity.

If we look at the tables of perineal lithotomies, suprapubic lithotomies, and litholapaxies we shall see that at all ages litholapaxy is the safest, and the further the patients advance in age the safer litholapaxy becomes.

After the operation of litholapaxy, the patient is kept in bed for several days and the cystitis is treated accordingly. Every week afterward the bladder should be washed out by an evacuator until it is free from any fragments of stone or gravel.

Cystitis depending upon tumor is not very frequent. In these cases the tumor should be removed if possible. The best way of removing these growths is by suprapubic cystotomy. After opening the bladder, if the growth is pedunculated, it should be removed by the galvano-cautery scissors. If removed by ordinary scissors, the stump should afterward be cauterized by the Paquelin cautery to stop the hæmorrhage and destroy the growth. When these tumors are sessile, however, they are best removed with the curette, after which their bases should be treated with the cautery. In cases of obstinate bleeding after the operation, very hot water or peroxide of hydrogen is of great service. If they are not effective, the bladder can be packed with gauze for a few hours. This viscus is then drained suprapubically by the siphon method, the tubes being removed at the end of a week.

In malignant growths the methods of treatment are by drainage and resection. Of these, drainage seems to be the wisest plan, as nearly every operation for the radical cure by means of a resection of a portion of the bladder wall has been fatal, or else there has been a recurrence within three or four years. In case drainage is resorted to, the suprapubic method seems to be the most satisfactory one to the surgeon and the most agreeable for the patient.

23 WEST FIFTY-THIRD STREET.

THE
CLINICAL VALUE OF DIPHTHERIA ANTITOXINE ADMINISTERED PER OS.*

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ENCOURAGED by the good effects obtained by De Minicis in administering diphtheria antitoxine by the alimentary tract, it was thought prudent to extend observations, and, independently, by the addition of cases endeavor to ascertain its clinical value. Moreover, Chantemesse has found that the rectum absorbs diphtheria antitoxine, so that, *a priori*, the inference was justifiable that the ingestion of antitoxine would lead to positive results. It is also to be remembered that in 1895 and 1896 the immense enthusiasm which arose in consequence of the remarkably happy effect of antitoxic serum was somewhat darkened by the occurrence of many sudden deaths after the subcutaneous administration; on this ground Sidney Phillips urged that antitoxine was not without danger, and its injection as a prophylactic measure, consequently, unjustifiable. It was therefore determined to study the effect of diphtheria antitoxine administered by the mouth as a curative agent.

The following cases illustrate its effect. It is necessary to note that in no case so treated had the duration of the disease been more than two days:

CASE I.—V. O., a girl, aged eleven months, was presented with a typical picture of ulcerative stomatitis. The mucous membrane of the tongue, cheeks, and gums was covered in patches with ulcers, upon which rested a dirty-gray exudate, which consisted microscopically of pus, fibrin, and epithelial cells. This affection of the mouth had existed three days. The temperature at the time was 101.5° F. The characteristic foul odor was present. Prescribed potassium chlorate internally, and hydrogen peroxide locally.

Two days later patient was seen again, and presented a white patch on right tonsil. Cultures showed the Klebs-Loeffler bacillus and the streptococcus. Temperature at this time was 102°, pulse 140.

The infant received fifteen hundred units of diphtheria antitoxine in a little water internally. Pilocarpine was used as an adjuvant.

Patient showed little or no change twenty-four hours later, but the pseudo-membrane had not spread. Forty-eight hours after the administration of antitoxine the pseudo-membrane had disappeared and temperature was normal. The stomatitis also had very greatly improved. Recovery was complete in two days.

CASE II.—I. B., a girl, aged ten years, had received an immunizing dose *per os* twelve hours before symptoms appeared. A small patch was noticed on right tonsil about the size of a dime. The disease had been contracted from her little sister. Temperature, 102.6° F.; pulse rapid, anorexia, restlessness, and considerable depression.

Received two thousand units by the mouth in a little cold water. Pilocarpine was used as an adjuvant; hydrogen peroxide locally. Twenty-four hours later no change in the throat, still had fever, and cervical glands infiltrated more than on the previous day. Patient received another two thousand units by the mouth. On the following day fever had disappeared, cervical nodes were much smaller, and the pseudo-membrane had lessened in size. Ten days later patient had some joint pains, which lasted three days. Recovery slow.

CASE III.—M. C., a girl, aged nine years, received two thousand units by the mouth sixteen hours after the symptoms of diphtheria developed. Cultures positive. Small patch on tonsil and pharyngeal wall. Thirty-six hours later temperature normal and pseudo-membrane lessened. Rapid recovery. Case mild.

CASE IV.—G. L., a girl, aged three years. Pseudo-membrane on both tonsils. Had been sick two days. Cultures positive. Received two thousand units in a little cold water. Pilocarpine internally and peroxide of hydrogen locally. Two days later practically well.

CASE V.—Miss L., aged nineteen years, presented a small patch on left tonsil, having the characteristic laminated structure of diphtheritic pseudo-membrane. Cultures showed numerous colonies of the Klebs-Loeffler bacillus. Very mild constitutional symptoms. Three thousand units administered *per os* produced a cure in two days.

CASE VI.—M. B., a girl, aged seven years; tonsillar diphtheria, marked constitutional symptoms; cultures positive. Received two thousand units *per os.* Pilocarpine and hydrogen peroxide as adjuvants. Forty hours later no fever, pseudo-membrane almost disappeared. Rapid recovery.

CASE VII.—Mrs. N., aged thirty-one years, mother of one child two years old. Has a very nervous disposition. Had a severe angina with swollen tonsils. Fever, 103° to 104° F., pulse rapid, headache, lumbar pains, great malaise, anorexia, and sleeplessness. On third day showed patch on tonsils. Cultures showed Klebs-Loeffler bacillus. Received three thousand units *per os.* Thirty-two hours later no fever, cervical glands smaller, and pseudo-membrane disappeared. Patient made a slow recovery.

CASE VIII.—J. L., a girl, aged four years, mild case of diphtheria. Cultures positive. Dose two thousand units. Pilocarpine and peroxide of hydrogen as adjuvants. Forty hours later symptoms had entirely disappeared.

CASE IX.—S. M., a boy, aged nine years. Presented a severe angina and marked constitutional symptoms, so that scarlatina was suspected. On second day showed slight pseudo-membrane on tonsil. Cultures showed bacilli of diphtheria. Received three thousand units internally in milk. On the following day the pseudo-membrane had extended, and again three thousand units of diphtheria antitoxine were given in the same way. On the third day the gray patch appeared on the other tonsil, and also symptoms of laryngeal involvement appeared.

In this case, seventy-two hours after the first dose, the pseudo-membrane was still on the increase and no amelioration of the symptoms. Was then given two thousand units subcutaneously. Twenty-four hours later symptoms had disappeared, and the advance of the disease was checked.

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* Read before the Bethesda Pædiatric Society, February 3, 1898.

The literature of 1897 contains very few accidents due to the administration of diphtheria antitoxic serum. Yet one or two deaths have been reported. Compared with the many cases that occurred the two previous years, the death-rate seems to have diminished decidedly; no doubt this is due to superior antitoxine, to improved instruments, and to greater precautionary measures. Therefore, the statement made by Phillips that it is unjustifiable to give immunizing injections must be modified materially. Not only are prophylactic injections justifiable, but a physician becomes grossly negligent if he fails to use antitoxine in those children who have been exposed to the danger of infection. In the Bethesda Foundling Home in the last year on two different occasions diphtheria of the most virulent type occurred, but was promptly checked by the subcutaneous injection of immunizing doses in all other infants, about seventy-five in number.

In private practice, however, frequently we find very nervous children, to whom the sight of a syringe is a terror, and who are nearly seized with convulsions at an attempt to give the injection. Occasionally, also, parents, while consenting that the sick child receive the injection, will strenuously oppose the attempt to immunize the other members of the family.

For this reason it is desirable to administer the antitoxine by the mouth. Under the direction of Professor Saunders clinical tests were made. We can now report twenty cases immunized, in seven different families, where isolation was not possible; also four cases in hospital practice, and eighteen cases in private practice, where there had been more or less exposure to the infection, but isolation was secured. The dose administered was never less than four hundred units and as high as one thousand units.

It was given diluted with cold water or whey. In eight cases antitoxic milk was used.

The age of these children immunized ranged from six months to fourteen years. About ten adults also were immunized by giving one thousand units *per os.* In all these cases we have but one failure to record, and in this the symptoms appeared twelve hours after the administration of five hundred units by the mouth. This may be explained by the fact that the serum requires about twelve hours for absorption.

The antitoxine diluted with water is readily taken by children. It has the taste of the antiseptic trikresol. Its administration in pure cold water seems to be preferable. One volume of antitoxine to about two or three of water is sufficient dilution. Whey is an excellent vehicle, but should be cold when used.

The great objection to the ingestion of antitoxine is its slow absorption. Its effect is not noticed until about twenty-eight to thirty-six hours have elapsed—*i. e.,* about twelve to sixteen hours later than when given subcutaneously. This would seem to show that it is absorbed only in the large intestine. Its therapeutic value, administered in this way, seems to be almost as definite as when used by the hypodermic route, yet its absorption is at times either delayed or entirely wanting, as shown by Case IX.

When pilocarpine is used as an adjuvant to the serum, the administration of the former drug should be intermitted or given in smaller doses for a short time, unless severe toxic symptoms ensue; for it is possible that the action of the alkaloid may interfere with absorption of the serum.

The sequelæ to antitoxine administered by the mouth are similar to those produced by its subcutaneous use, but the percentage is probably less. In the forty-nine cases reported above, urticaria developed in five cases. Well-marked joint pains were noticed three times. Dysmenorrhœa occurs in young women almost invariably at the next menstrual period, whether given in one way or the other, as Professor Saunders has pointed out in a previous paper.

Conclusions.—Diphtheria antitoxine acts similarly whether given by the mouth or subcutaneously, but its effect occurs much later when given in the former way.

It is possible that the intestinal epithelium refuses at certain times to take it up, and therefore it is a less reliable method.

This mode should be employed in mild cases when objections stand in the way of its hypodermic use. It may be also used in mild cases in adults.

Its use by the mouth as a prophylactic measure is to be recommended, as it presents many advantages. However, if the child has been exposed to diphtheria for as much as two days the hypodermic method should be employed.

Joint pains, erythema, urticaria, and dysmenorrhœa are not prevented.

From a clinical standpoint, therefore, it is to be urged that for curative purposes the administration by the mouth should be restricted to exceptional cases; but for prophylactic purposes this method should receive the preference.

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MEDICAL HISTORY AND ITS VALUE TO MEDICAL STUDENTS.*

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History may be said to be the recorded experience not of one man, but of many—of nations, of the world.

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* Read before the Missouri Medical College Alumni Association, January 13, 1898.

Carlyle tells us to "examine history, for it is philosophy teaching by experience." "History is a voice forever sounding across the centuries the laws of right and wrong."

The reason for my choosing such a theme for consideration this evening is because of the slighting that has always been given to this most useful and interesting branch in our medical colleges. Now that a four years' course has been inaugurated, time should be devoted to the study of medical history.

Written history is as old as the invention of letters. The earliest works than can be classed under the name of history are by the father of history, Herodotus, who was born in the fifth century B. C. The study of history's birth—from narratives of single events, as earthquakes, floods, etc., inscribed upon tablets and bricks; then the use of different materials, as leather and what not, to the discovery of paper and its use, making annals and chronicles possible—all these facts make an interesting study. To-day we have the grand works on history, both narrative and critical, showing the progress made by man and civilization.

Medical history, as history in general, may be said to be of two kinds—namely, narrative and philosophical. Purely narrative history is of little practical value; it satisfies our curiosity and is interesting. Philosophical history, on the other hand, should be carefully distinguished from that technical and barren erudition which consists in little else than a dry record of names and dates; the one expands and trains the reasoning faculties to sound reflection, while narrative history is perused by the medical student with about as much interest, and perhaps as little profit, as the monk who counts his bead-roll.

1. The study of history is valuable because it is full of examples of mistaken observation, judgment, and deduction.* "For ages physicians imagined that the hip joint was exposed to no other injury or accident except luxation, nor was any doubt of this ever suggested till the time of Paræus. He was called to see a lady whose hip joint he thought was luxated; he imagined that he reduced the bone by extension, and accordingly he secured it by a tight bandage; but the next day, when the bandage was undone, he found, to his great surprise, the limb shortened again, and then only did he become sensible that the thigh bone was broken at its neck. At the beginning of the present century it became the universal opinion that no degree of force could luxate the hip joint without fracturing the neck of the thigh bone; if they acknowledged luxation at all, it was only from an internal cause, as suppuration of the joint." As an example of mistaken judgment, the treatment of dislocations by force offers a good specimen. Not until Dr. Reed, of Rochester, N. Y., in 1855, called attention to manipulation as a method of reduction of luxations was it much used, although such an ancient writer as Hippocrates calls attention to it.

Patrick Henry is quoted as having said: "I have no guide for my feet except the lamp of experience." The study of history, which is the recorded experience, enables each generation of men to profit by the experience of their predecessors, especially to avoid their costliest and most painful mistakes. Without history nearly all of the practical wisdom of mankind would be lost. To-day is the pupil of yesterday, and "it is because to-day learns wisdom from yesterday that it is able to teach wisdom to to-morrow."

But if history is valuable only because of the mistakes of our predecessors, how much more so is it for the encouragement and inspiration it gives us by examples of clear insight, persistent and careful observation, wise deduction, and devotion to the healing art! Dr. Bowditch, by his careful observation and wise deduction, brought aspiration of the pleural cavity into practical use, thereby saving many lives and relieving much suffering. It was devotion and an enthusiastic desire for learning his profession that induced Paré to follow the French armies, and we are told that princes and generals willingly took the field when they could prevail upon Paré to go with them. By his presence the town of Mentz was saved to the French, showing the great influence he had upon the army.

History is valuable because it stimulates in us a love for our profession, which is one of the noblest man can engage in. The study of history will cultivate fair-mindedness as a habit, and a suppression of intellectual partisanship with respect to all subjects whatever, involving the mental attitude, not of an attorney standing for one side of the question, but of a judge standing for what is true on both sides. The historical spirit is the judicial spirit, and helps us to acquire freedom from the warp of undue sympathy or antipathy, mental poise, justice in thought and word, which constitutes the judicial spirit.

History gratifies our curiosity as to the manner in which our ancestors accomplished their object, and the progress made in treatment. When Boerhaave, the most accomplished and celebrated physician of the eighteenth century, died, he left behind him an elegant volume, the title-page of which declared that it contained all the secrets of medicine. On opening the volume, every page was blank but one, and on it was written: "Keep the head cool, the feet warm, and the bowels open." This legacy of Boerhaave's to suffering humanity typified not inaptly or unjustly the acquirements, not of medical science, but of the medical art, at the close of the eighteenth century. "Between Aristotle and Bichat," says Buckle, "I can find no middle man." He and Hunter represent the turning point in medicine from idealism, speculation, and theory to accurate and close observation. A foreign writer said of medicine before Hunter's time: "Physic is the art of amusing the patient, while Nature cures the disease." The great Samuel Johnson said: "It is a melancholy attendance on misery, a mean submission to peevishness, and a continual interruption of pleasure." The great discoveries in physiology of the past hundred years are due to the fidelity with which physiologists have substantially followed in the line of investigation marked out by Bichat and Hunter. We can here very appropriately quote from Tennyson's Locksley Hall:

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* *Principles of Surgery*, by John Bell, vol. ii, p. 80.

"Yet I doubt not through the ages one increasing purpose runs,
And the thoughts of men are widened with the process of the suns."

The last century's progress shows medical science to have made a rapid stride forward, in spite of the saying that

"Science moves but slowly, slowly
Creeping, creeping on from point to point."

"History," Seeley tells us, "gratifies the curiosity of the reader about the past, modifies his views of the present and his forecast of the future." Our views of the present are modified by the failures and mistakes in the past. With our advances we can read history critically, and by its study we are often able to explain satisfactorily why these were so. We are now able to see the many follies of bleeding, yet we can see some truth also for its practice in the light of our present knowledge of physiology.

The future activities will be guided by past experiences in the various divisions of our science. History suggests to us the fields of medical science that are the best ground for prospecting or experimenting. It shows what is as yet undeveloped and indefinite. It also saves us going over what others have exhausted. Cicero says: "Not to know what happened before we were born is to remain always a child, for what were the life of a man did we not combine present events with the recollections of past ages?"

Were it not for history putting us in possession of the experiments of the past generations and their results, medical science would always remain in its infancy and be liable to the risks and uncertainties of blind experimentations. History permits us to enter into the labors of our fathers; their mantle falls upon us, and we carry on their work to a greater perfection.

"Historical study not only enlarges the mental horizon, but gives culture to man. The man who knows only the time immediately around him is in a condition somewhat like the man who knows only the place immediately around him—who has never traveled. History is for time what travel is for space." No one will deny that culture to a medical man is of importance. Dealing as he does with bodily ills, material and unhealthy conditions, unless he associates with others he will get a misanthropic spirit and fail to appreciate the higher life of mind and soul. He needs to know that life is more than nerves and arteries and tissues and micro-organisms, etc. It also has its loves, its hopes, its griefs, its mind and soul life. "Universal history makes a man a citizen of all nations, a contemporary of all ages," says Herschel.

Historical study, by its making the student investigate and reason within the realm not of the exact and absolute, but of the approximate and possible—with the mixed deeds, and motives, and traits of character, and experiences of human beings, gives the very training required for real life. In real life we are in a sphere not of the absolute but the relative, and we have to deal with the very problems that the historian has to deal with. History is the study of human nature on a broad field. It is the great teacher of human nature by means of object lessons drawn from the whole recorded life of human nature.

In closing I will simply repeat:

1. History is a record of past experiences. It shows progress.

2. It gives us warnings, examples of past mistakes and failures.

3. It gives us encouragement, inspiration, examples to emulate.

4. It stimulates patriotism, love of country, and love of our profession.

The past satisfies our curiosity.
The present modifies our views.
The future guides us by past experiences.

"Employ your time by improving yourself by other men's writings, so that you may come easily by what others have labored hard for." (Socrates.)

3101 Pine Street.

Therapeutical Notes.

Bryonin in the Treatment of Hepatic Congestion.—The *Gazette hebdomadaire de médecine et de chirurgie* for February 3d gives the following formula:

℞	Bryonin	1½ grain;
	Sugar of milk	60 grains;
	Gum arabic	15 "
	Syrup	a sufficiency.

M. Divide into a hundred granules. One to be taken every two hours until the bowels are sufficiently moved.

Creosote in the Treatment of Ozæna.—Ferreri (*Archivio italiano di otologia, rinologia e laringologia*, 1897, No. 4; *Deutsche Medizinal-Zeitung*, February 10, 1898) has used creosote in the treatment of ozæna for twenty-five years. Applied pure, it sets up severe inflammation; consequently it should not be so used except in very stubborn cases. In those of medium severity he employs equal parts of creosote and glycerin. The following solution, much weaker, is often effective:

℞	Creosote	5 parts;
	Seventy-per-cent. alcohol	10 "
	Glycerin	40 "

M.

A Gargle for Follicular Amygdalitis.—The February number of the *Revue mensuelle des maladies de l'enfance* credits this formula to Lévy:

℞ Beech creosote.................. 8 drops;
Tincture of myrrh, } each....... 900 grains;
Glycerin, }
Water......................... 1,800 "
M.

Liebreich's Mixture for Gastro-intestinal Catarrh.—The *Gazette médicale de Paris* for February 12th takes the following formula from the *Semaine médicale:*

℞ Tincture of calumba, } .... equal parts.
Tincture of cascarilla, }

M. Twenty drops to be taken four or five times a day in cases in which it is not advisable to use opium.

Erb's Tonic Pills.—The *Gazette hebdomadaire de médecine et de chirurgie* for February 6th cites the following formula from the *Revue internationale de thérapeutique:*

℞ Iron lactate .... from 45 to 75 grains;
Aqueous extract of cinchona...... 75 "
Alcoholic extract of nux vomica,
from 6 to 9 "
Extract of gentian .... a sufficiency.

M. Divide into a hundred pills. One or two to be taken three times a day, after meals.

These pills are used in the treatment of tabes, after a mercurial course. Erb thinks that they not only ameliorate the patient's general condition, but even exert an influence on his psychical state.

The Administration of Cod-liver Oil.—The *Gazette hebdomadaire de médecine et de chirurgie* for February 20th gives the following as Bricemoret's formula:

℞ Cod-liver oil.................. 6,000 grains;
Syrup of balsam of Tolu......... 3,000 "
Tincture of balsam of Tolu...... 12 drops;
Essence of cloves.............. 2 "

M. The mixture is not to be emulsionized, but simply shaken vigorously before the dose, a tablespoonful, is poured out. After it is taken, the only taste that remains in the mouth is that of the syrup.

An Application for Dental Caries.—The *Gazette hebdomadaire de médecine et de chirurgie* for February 10th attributes the following formula to Dunogier:

℞ Crystallized carbolic acid, } each .... 2 parts;
Essence of lemon, }
Alcohol............................ 10 "

M. The cavity is washed and dried, and a little pellet of cotton soaked in the solution is inserted. Over this another pellet charged with tincture of benzoin is placed. The lemon is used simply to mask the odor of the carbolic acid.

An Antiseptic Jelly as an Application in Erysipelas.—Gallois, according to the *Journal des praticiens*, employs the following formula:

℞ Water......................... 1,000 parts;
Gelose .... 10 "
Corrosive sublimate, } each....... 1 part.
Tartaric acid, }
M.

A Pill for Migraine.—The Quebec *Revue médicale* for February 16th gives the following formula:

℞ Quinine valerianate............... 1.50 grain;
Caffeine citrate .... 0.75 "
Extract of Indian hemp.......... 0.15 "

M. For one pill. Two or three such pills to be taken in the course of a day.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton and Company.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, MARCH 19, 1898.

THE MEDICAL CORPS OF THE NAVY.

It is notorious, and has been for several years, that our navy is short of medical officers. The reason commonly put forth to account for this state of things is that young medical men who would like to enter the service are unable to pass the necessary examination. While this statement is in a certain sense true, it is an undeserved reflection upon the young medical graduates of the country. Nobody who is acquainted with the requirements for the medical degree at any one of at least half a dozen of our schools—schools that turn out in the aggregate certainly not fewer than a thousand graduates every year—doubts that the great majority of those graduates could readily pass the naval examination, or doubts that there are among them men enough with an inclination for the service to fill the vacancies ten times over. Under normal conditions those vacancies would be filled at once. The trouble is, as few of our readers need be told, that the members of the medical staff of the navy are not satisfied with their status on board ship. This is known to the profession in general, and the consequence is that men abundantly fitted for the service hesitate to put themselves in a position which they feel sure will prove uncomfortable.

Within a few months past an effort has been made by the assistant secretary of the navy to do away with the chronic friction between the line and the staff, but in the proposed rearrangement of the *personnel* of the navy that has been the outcome of that effort the medical corps does not seem to have fared so well as the engineers have. At least, that is our understanding of the matter. There is still time, fortunately, to shape legislation so as to satisfy the just expectations of the medical officers, to free them from the feeling that they are looked down upon by the line as underlings. If this is not done, it will be sheer patriotism alone on the part of medical men that will enable the department to fill the vacancies in the medical corps, and filled they must be in one way or another if the nation is to present itself before the world as in that state of readiness for war which is the only guarantee of peace.

If a warlike outbreak comes to appear a little more imminent than it is at present, the vacancies will undoubtedly be filled without much loss of time. The naval service is always more attractive to our young men in time of war than in time of peace, and that fact may lead to a temporary disregard on the part of possible candidates of the objection that has heretofore restrained them from entering the navy. If that turns out to be the case, it is to be presumed that the vacancies will be filled in the usual way, by the appointment of assistant surgeons after the examination now required. Otherwise, it may be supposed, the necessary men will be provided by the contract system that was resorted to in the late civil war, and those contracted with will be known as acting assistant surgeons.

Concerning this matter of acting assistant surgeons, acting not under a commission, but under a contract, we venture to express the hope that they will be recognized as officers, and so made eligible as recipients of any medals and other rewards to which they may show themselves entitled in actual service. Contract surgeons were held to be entitled to prize money in the civil war, and they received it. Surely it was not as enlisted men that they received it; it is difficult to see, therefore, that the award of it to them was not a tacit admission that they were virtually officers. If they are entitled to share in prize money, it does not appear reasonable that they should not also be awarded medals for meritorious conduct—either they or their *confrères* of the army.

PROFESSIONAL SECRECY.

An anonymous writer in the *Indépendance médicale* for February 23d gives several illustrations of the difference between the behavior of an honorable and discreet physician and that of a cad in the presence of a disease accounted discreditable to the victim. In one instance the conventional "Mme. X.," thirty years old, who had been a widow for three years, was employed in a large government office. A few months ago she consulted one of the official physicians of the establishment. This fellow examined her and ascertained that she had mucous patches in the mouth and all the symptoms of syphilis of but a few months' duration. Then, in the presence of at least a dozen persons attached to the office, he brutally declared to the unfortunate woman that she had syphilis, and, as she did not know what he meant, he entered into explanations. The result of this fine medical exploit, says the writer, was as follows: That very day everybody in the establishment knew that the woman had or had had a lover, and that he had given her syphilis. The matter came to the director's ears, and then to those of the head of the department. The unfortunate woman had to lose her place; she was sent to Algeria to take an inferior post.

The writer says that if anybody should ask for his opinion on the conduct of the physician in this case, he should declare without any ifs or ands that it was that of a supreme idiot unworthy to follow the noble profession of medicine. The physician's part, he justly remarks, should above all be that of pity and tenderness. He says also that he has legal advice to the effect that the woman in this case might have prosecuted the physician, and he adds that if the judges, who in general must not be confounded with the just, had applied the law, he would have been condemned, and it would have served him right.

As to the part which the man ought to have played in this particular case, says the writer, and we quite agree with him, it is very simple. After having ascertained the nature of the disease, he should have dismissed the other persons present, and then told the woman delicately that she was suffering with syphilis, without concerning himself with the way in which she had acquired it, but explaining to her what treatment she ought to follow, at the same time putting her on her guard against the danger of communicating the infection to her associates. That was his duty and his whole duty.

Another case was that of a grocer's wife who was found to have syphilis. The physician to whom she applied told her so bluntly in the presence of her brother, a curate. When the grocer came home, both his wife and his brother-in-law overwhelmed him with abuse, but he was at a loss to understand the occasion of it. He went to another physician, who gave him a certificate that he was at the time free from any manifestation of infectious disease. He was led to suspect an employee of intimacy with his wife, and the suspicion turned out to be well founded. So it was established that syphilis had come into the family on the wife's side. The employee was dismissed, the wife was scored by a magistrate, and a legal separation followed. All this, says the writer, might have been avoided by the employment of a little diplomacy on the physician's part.

In contrast with these instances, the writer mentions a case analogous to the second one in which he tactfully avoided bringing trouble into the patient's family. The wife was at fault in this case, too, but he so managed matters that the husband had no suspicion of it, while both he and his wife were subjected to proper treatment and induced to pay attention to means of preventing the spread of the disease.

MINOR PARAGRAPHS.

THE CORONERS' PHYSICIANS OF THE BOROUGH OF MANHATTAN.

MOST medical officials are overworked and underpaid; the profession is used to it. But the case of the coroners' physicians of the Borough of Manhattan seems peculiarly hard, and we are glad to learn that steps are being taken in the legislature to raise their salary from $3,000 to $5,000 a year. The volume of their official work is so great that they are virtually debarred from private practice. It is out of all proportion to their salary; indeed, they get no more than about two dollars for each case, and in a third of the cases they have to make autopsies and give testimony. Moreover, from long service these gentlemen have come to acquire special skill in the detection of criminality and are often able, therefore, to save money to the municipality by refraining from involving it in useless expenditure. By all means, let this be recognized.

POISONING WITH BISMUTH.

IN the *Centralblatt für innere Medicin* for March 5th there are abstracts of accounts of two cases in which the use of preparations of bismuth was followed by symptoms of poisoning. The first, taken from the *Korrespondenzblatt für schweizer Aerzte,* was one in which rather more than an ounce of a ten-per-cent. emulsion of airol with equal parts of glycerin and olive oil was injected into a cold abscess after the pus had been removed with an aspirator. In the course of three days the patient had severe stomatitis with slight nausea, and the mucous membrane of the mouth was colored black. The symptoms subsided on the withdrawal of the emulsion, but for two weeks longer the blackening of the oral mucous membrane was still distinctly visible. The inferences are drawn that airol is neither absolutely non-poisonous nor altogether insoluble, and that it should not be used in the form of a glycerin emulsion, for the glycerin gradually dissolves it. The other case (*Bulletin général de thérapeutique,* April 23, 1897) was that of a man who took from fifteen to thirty grains of bismuth subnitrate, and broke out with a rash like that of scarlet fever. It lasted four or five days and was followed by decided desquamation, especially on the hands and feet.

THE GYROMELE IN GERMANY.

THE ingenious implement for examining the interior of the stomach, a flexible revolving probe termed by its inventor the gyromele, has, it appears, been practically reproduced and written about in Germany without due credit being given to Dr. Fenton B. Turck, of Chicago, who devised the instrument several years ago and has used it ever since. This Dr. Turck makes clear in a dignified but vigorous article published in the *Centralblatt für innere Medicin* for March 5th.

THE ENLIVENING EFFECT OF A HEALTH BOARD ON TRADE.

IT is stated that there is no producer of vaccine in the State of New York but the New York city board of health. There was peace between the lion and the lamb when the lion had devoured the lamb.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 15, 1898:

DISEASES.	Week ending Mar. 8.		Week ending Mar. 15.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	9	5	4	3
Scarlet fever	182	9	181	3
Cerebro-spinal meningitis	2	0	0	0
Measles	..	..	369	11
Diphtheria	150	22	183	17
Croup	12	4	12	1
Tuberculosis	148	14	208	107

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, and cholera were received in the office of the supervising surgeon general during the week ending March 12, 1898:

Small-pox—United States.

Corona, Ala	March 4	1 case.	
Horse Creek Mine, Ala	March 4	3 cases.	
Mobile, Ala	March 4	1 case.	
Patton, Ala	Feb. 1–March 4	9 cases.	
Evansville, Ind	March 4	1 case.	
Westfield, N. J	March 4	1 "	
Chattanooga, Tenn	Feb. 1–28	7 cases.	
Jellico, Tenn	Feb. 1–28	8 "	
Johnson, Tenn	Feb. 1–28	11 "	
Knoxville, Tenn	Feb. 1–28	11 "	
Lenoir City, Tenn	Feb. 1–28	3 "	
Mingo, Tenn	Feb. 1–28	2 "	
Morristown, Tenn	Feb. 1–28	1 case.	
Newcomb, Tenn	Feb. 1–28	3 cases.	
Rutledge, Tenn	Feb. 1–28	1 case.	
Brownsville, Texas	Feb. 12–26	2 cases.	

Small-pox—Foreign.

Prague, Bohemia	Feb. 6–12	3 cases.	
Hong Kong, China	Jan. 16–22	9 "	5 deaths.
Cienfuegos, Cuba	Feb. 21–27		12 "
Sagua la Grande, Cuba	Feb. 20–26	170 "	10 "
Liverpool, England	Feb. 13–19	1 case.	
Vera Cruz, Mexico	Feb. 25–March 3	2 cases.	
Madrid, Spain	Feb. 10–16		1 death.
Odessa, Russia	Feb. 6–19	16 "	1 "
St. Petersburg, Russia	Jan. 30–Feb. 12	34 "	3 deaths.
Warsaw, Russia	Jan. 30–Feb. 12		14 "

Yellow Fever—Foreign.

Para, Brazil	Feb. 13–19		8 deaths.
Kingston, Jamaica	Feb. 15–28	2 cases,	1 death.

Three Supposed Cases of Hydrophobia.—Recently three cases alleged or suspected to be hydrophobia occurred in Philadelphia and were examined thoroughly by both bacteriologists and pathologists. The first case was that of a lad sixteen years of age who was bitten by a dog during the month of September of last year and died in the Presbyterian Hospital six weeks afterward. The attending physician stated that the lad's saliva was frothy at times and that three days before death the temperature rose to 100° F., the next day to 101°, and on the day of death to 103°. In the second case no definite history has been reported, but it was regarded as being suspicious. The third instance was that of a man who was bitten by a dog last December and died at the German Hospital in February. He had frothing at the mouth at the sight of liquids, together with convulsions. The first and second cases were thoroughly examined by Dr. A. C. Abbott in the following manner: Sections of the spinal cords were obtained, and from these specimens four rabbits were inoculated, two rabbits from each case. Of those so treated, one rabbit died the following morning from the effects of the operation, and another died on the twenty-first day from congestion of the brain. The other two rabbits lived and showed no symptoms of hydrophobia. Dr. Cattell, the coroner's physician, made a post-mortem in the first case, and found that death had resulted from congestion of the brain. In the second instance Dr. Morton, the coroner's physician, after a thorough post-mortem examination, stated that death had been due to uræmia, and in the third case that death had resulted from the same cause.

Diphtheria and Croup in the Boroughs of Manhattan and the Bronx.—The following comes to us from the city board of health:

Deaths for January and February, 1894–1898.

	1894.	1895.	1896.	1897.	1898.
January	350	210	208	162	91
February	260	175	187	133	109*
Total	610	385	395	295	200

* To February 26th inclusive. Monthly returns not as yet made up.

Death-Rate from Diphtheria and Croup for the Months of January and February, 1894–1898.

1894.	1895.	1896.	1897.	1898.
2.03	1.23	1.23	0.89	0.59

Diphtheria antitoxine came into use in New York in the autumn of 1894. The department of health placed its serum in use on January 1, 1895.

The Late Dr. Edward Constant Seguin.—The New York Neurological Society records with profound sorrow the death of Dr. Edward Constant Seguin, who died of cirrhosis of the liver on Saturday, February 19, 1898, aged fifty-four years.

Dr. Seguin was one of the founders of this society and its president during 1877–'78, and was for many years a constant attendant at its meetings, taking a leading part in its scientific discussions; his opinions were always listened to with that respect to which his vast clinical experience and his sound judgment entitled them.

For many years Dr. Seguin was placed with the foremost neurologists of the world, and his original contributions to science were valued highly.

Whereas, This society has lost by the death of Dr. Seguin one of its original incorporators and earnest supporters, therefore be it

Resolved, That in his death this society has lost a valuable and honored member. In his professional attainments he was most eminent, enthusiastic in his devotion to his special field of work, in which he was justly esteemed an authority. As an author he was remarkable for his acute observation and logical reasoning, while the clearness of his style gave evidence of the directness of his thought. By his death scientific neurology has lost a zealous and successful disciple, while the community has been deprived of the services of a skillful counselor and practitioner. The members of the Neurological Society desire thus to give expression to their feelings of respect for his memory, and, sympathizing sincerely with his family in their loss, offer them respectful condolence.

Resolved, That this minute be entered upon the records of the society and that a copy be sent to the family of Dr. Seguin and to the medical journals.

[Signed.] J. ARTHUR BOOTH, M. D.,
M. ALLEN STARR, M. D.,
GEORGE W. JACOBY, M. D. } *Committee.*

The Buffalo Academy of Medicine.—At the last meeting of the Section in Pathology, on Tuesday, the 15th inst., a paper on The Anatomy and Mechanism of the Foot Considered with Reference to Certain Abnormal Conditions was to be read by Dr. L. A. Weigel, of Rochester. A special meeting of the academy was to be held on Saturday, the 12th inst., to determine what action, if any, should be taken concerning the proposed legislation in regard to the Hamburg Canal and the Brush-Davis telephone bill.

An Anonymous Letter of Inquiry has been received at this office. The writer is requested to send his name. Positively, we can not answer anonymous letters.

Dr. Rose's Book on Greece.—We learn that Dr. Achilles Rose's book entitled *Christian Greece and Living Greek* has been translated into Greek and is to be published in Athens.

The Society of Medical Jurisprudence.—At the last meeting, on Monday evening, March 14th, the special order was a paper entitled Expert Evidence from the Standpoint of the Witness, by Dr. F. X. Dercum, of Philadelphia.

Preventive Medicine in Japan and the United States Compared.—The last health report from Japan shows that between December 28, 1897, and February 3, 1898, there were 338 cases of small-pox in that government, of which twenty-seven per cent. proved fatal. In one of the islands belonging to Japan, the Hakkaido Yezo, out of 185 cases nearly thirty per cent. ended in death within a period of five weeks. The United States Marine Hospital Service reports show that in the State of Georgia there were 180 cases of small-pox between January 10th and February 16th, with only two deaths.

The Medical Society of City Hospital Alumni (formerly City Hospital Medical Society) of St. Louis.—At the last meeting, on Thursday, March 17th, the programme for the evening was as follows: The Treatment of Endometrial Diseases, by Dr. Frank A. Glasgow: The Value of the Arid Belt of New Mexico and Arizona in Pulmonary Troubles, by Dr. Louis C. Boislinière; and a Report on Two Cases of Urinary Calculi, by Dr. H. Wheeler Bond. Dr. Howard Carter was to exhibit a refractometer to be used for the identification of oleomargarin.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 12th inst., the following papers were to be read: A Unique Case of Appendicitis, by Dr. John Young Brown, and the Differential Diagnosis of the Bacillus of Typhoid Fever from the Bacillus Coli and other Bacteria by Culture Media, by Dr. Amand Ravold.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 6 to March 12, 1898:*

BRATTON, THOMAS S., First Lieutenant and Assistant Surgeon, will be relieved from duty at Fort Niobrara, Nebraska, upon the arrival of HIGLEY, BRAINARD S., Jr., First Lieutenant and Assistant Surgeon, at that post, and ordered to Fort Leavenworth, Kansas, for duty.

STRONG, NORTON, Captain and Assistant Surgeon, is granted leave of absence for six months, on surgeon's certificate of disability, to take effect upon the expiration of the ordinary leave of absence granted him.

The following-named medical officers are relieved from duty at the Army Medical School in Washington, to take effect upon the completion of the course at the school ending April 1, 1898, and ordered to take station as follows: ASHFORD, BAILEY K., First Lieutenant and Assistant Surgeon, Fort Sam Houston, Texas; CLAYTON, J. B., First Lieutenant and Assistant Surgeon, Fort Clark, Texas; HIGLEY, BRAINARD S., Jr., First Lieutenant and Assistant Surgeon, Fort Niobrara, Nebraska; PAGE, HENRY, First Lieutenant and Assistant Surgeon, Presidio of San Francisco, California; RAUCHFUSS, GEORGE, First Lieutenant and Assistant Surgeon, Fort Apache, Arizona; and WEBBER, HENRY A., First Lieutenant and Assistant Surgeon, Fort Reno, Oklahoma Territory.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending March 12, 1898:*

BALDWIN, L. B., Surgeon. Detached from the Puritan, ordered home, and granted leave of absence for two months.

DRAKE, N. H., Surgeon. Detached from duty with the Minneapolis and the Columbia, and ordered to the Minneapolis.

Gatewood, J. D., Surgeon. Detached from duty at the Naval Museum of Hygiene, Washington, D. C., and ordered to the Puritan.

Herndon, C. G., Surgeon. Ordered to the Columbia.

Kindleberger, C. D., Assistant Surgeon. Detached from the Olympia, ordered home, and granted leave of absence for two months.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending March 10, 1898:*

Bailhache, Preston H., Surgeon. To proceed to Cape Fear Quarantine, Southport, N. C., as inspector. March 8, 1898.

Peckham, C. T., Passed Assistant Surgeon. Upon being relieved by Passed Assistant Surgeon W. J. S. Stewart, to proceed to Pittsburg, Pa., and assume command of service. March 8, 1898.

Pettus, W. J., Passed Assistant Surgeon. Relieved of command of service at Norfolk, Va., and to remain in command of Cape Charles Quarantine. March 10, 1898.

Magruder, G. M., Passed Assistant Surgeon. To rejoin station, Memphis, Tenn., March 8, 1898.

Wertenbaker, C. P., Passed Assistant Surgeon. To proceed to Middleboro, Ky., for special temporary duty. March 10, 1898.

Brown, B. W., Passed Assistant Surgeon. To proceed to Norfolk, Va., and assume command of service. March 7, 1898.

Stewart, W. J. S., Passed Assistant Surgeon. Upon being relieved by Passed Assistant Surgeon G. M. Magruder, to rejoin station, Vineyard Haven, Mass. March 8, 1898.

Oakley, J. H., Passed Assistant Surgeon. Granted leave of absence for one month. March 4, 1898.

Hastings, Hill, Assistant Surgeon. To rejoin station, New Orleans, La. March 8, 1898.

Von Ezdorf, R. H., Assistant Surgeon. To proceed to New Orleans, La., for duty and assignment to quarters. March 4, 1898.

Foster, M. H., Assistant Surgeon. To proceed to Chicago, Ill., for duty and assignment to quarters. March 10, 1898.

Appointments.

Rudolph von Ezdorf, of the District of Columbia, and Milton H. Foster, of Pennsylvania, commissioned as Assistant Surgeons.

Society Meetings for the Coming Week:

Monday, *March 21st:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society.

Tuesday, *March 22d:* New York Dermatological Society; Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); Medical Society of the County of Lewis (quarterly), N. Y.; Richmond, Virginia, Academy of Medicine and Surgery.

Wednesday, *March 23d:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Springfield, Massachusetts, Medical Club (private); Philadelphia County Medical Society.

Thursday, *March 24th:* New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Brooklyn Society for Neurology; Roxbury, Massachusetts, Society for Medical Improvement (private); Pathological Society of Philadelphia.

Friday, *March 25th:* New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *March 26th:* New York Medical and Surgical Society (private).

Births, Marriages, and Deaths.

Born.

Reed.—In Wheeling, West Virginia, on Wednesday, March 9th, to Dr. and Mrs. Robert Jeffrey Reed, a son.

Married.

Gates—Terry.—In Harriston, Louisiana, on Wednesday, March 9th, Dr. Howell Gates and Miss Bertha Terry.

Young—Berwick.—In Centreville, Louisiana, on Wednesday, March 9th, Dr. Marion A. Young, of Rayne, Louisiana, and Miss Mamie Berwick.

Died.

Clark.—In New Orleans, on Monday, March 7th, Dr. Eugene Clark, of San Antonio, Texas.

Harris.—In New York, on Sunday, March 13th, Mrs. Annie Emmet Harris, wife of Mr. Charles N. Harris and daughter of Dr. Thomas Addis Emmet.

Morrissy.—In Brooklyn, on Sunday, March 13th, Dr. William P. Morrissy, in the fifty-second year of his age.

Rodgers.—In Omaha, Nebraska, on Thursday, March 10th, Dr. William O. Rodgers.

Proceedings of Societies.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Stated Meeting, December 8, 1897.

(*Concluded from page 367.*)

The President, Brooks H. Wells, M. D., in the Chair.

Symptoms and Treatment of Cystitis.—Dr. Ramon Guiteras read a paper on this subject. (See page 386.)

Dr. Walker said the principal experience he had in cases of cystitis was in those cases coming on after frequent catheterism in women, and then it seemed to him that the cause of the cystitis was injuries produced in passing the catheter, rather than the use of a dirty catheter, because in all of those cases the catheters were sterilized and kept with great care in an antiseptic solution and used principally by the nurse, and yet, in spite of all the care exercised as to asepsis, etc., he had seen cases of cystitis develop. It seemed to him, therefore, that it was on account of traumatism rather than anything else, for in these cases not only had the cleanliness of the catheters been looked after, but the meatus had been carefully cleansed before their introduction.

Dr. Newman said there was a class of cases that one met with in women, not of decided cystitis, but of irritability of the bladder, with inflammatory conditions of the uterus or appendages. They are quite as troublesome, possibly more so where the patient is constantly urinating, and one was at his wits' end to know how to relieve them. Nothing but very powerful anodynes would afford any relief. Regarding the treatment of cystitis at the present time, he thought the best way was to open the bladder immediately, just as soon as cystitis was diagnosticated. So far this fall he had seen two cases of acute cystitis, occurring two weeks after an attack of urethritis. One case was rather peculiar in its origin. It was undoubtedly infection by the gonococcus, starting as an acute urethritis, where the disease was contracted at the toilet seat of one of the dry goods stores in New York. The patient had an interstitial cystitis and was confined to her bed nearly six months. The orifice of the bladder was very large, which might account for the infection. The patient noticed after getting on the seat that there was some yellow matter on it; three days afterward she was seized with acute urethritis, which the speaker attempted to correct with nitrate of silver, and in two weeks' time she had cystitis besides. The bladder had now been open nearly four months and she was still discharging a lot of pus. It seemed a wise and safe procedure to get the bladder open in women as soon as possible.

The President asked if this patient was a virgin.

Dr. Newman said no; she had two children.

Dr. Philip Arthur Malleson said that in cases where the main symptom was pus, with the possibility of its being caused by a small tumor or localized tuberculosis, a thorough, careful curetting of the diseased portion of the walls of the bladder, followed by the frequent washing out of the bladder for weeks afterward with distilled water, had met with success in proper selected cases in the hands of a few men.

Dr. W. L. Stowell said that just before he left the office he had a case that he now diagnosticated as tuberculous trouble of the bladder, although about a year ago he diagnosticated it as cystitis. There was some pus in the urine, and occasionally a little blood; now the pus had disappeared and the blood had appeared. He asked if cystitis was common in tuberculous people, or if the two often went together.

Dr. Henry H. Schroeder cited one instance to show how persistent these cases might be in spite of surgical treatment. This case had started with a good deal of hæmorrhage. An incision was first made into the bladder from the vagina, which helped to make out that there was a tumor; then a suprapubic operation was performed and a papilloma removed from the trigonum. The abdominal wound healed up, but the vaginal opening was maintained for a long time. Six months afterward an attempt was made to close the buttonhole, and immediately a cystitis started, as severe as the first attack, but with no discharge of blood. So it was decided to let the fistula remain. A year later the same procedure was tried, with the same result. It was now four years and a half since the trouble began.

The President said that Dr. Guitéras in his paper dealt principally with cystitis as it occurred in the male. The speaker saw very few of these cases, but he did see a number in the female, and they presented certain differences, which Dr. Guitéras only touched on. In addition to the causes of cystitis which he had enumerated, there was the primary and common one of the introduction of various pathogenic bacteria into the bladder, and the willful introduction of foreign bodies into the female bladder. The foreign body that got into the female bladder oftenest was the hairpin. It was put into the urethra loop first; if lost, it always traveled into the bladder, and after it had stayed there for a while, it started cystitis from the concretions that formed around it. Leather shoestrings, feathers, slate pencils, lead pencils, and various queer articles had been found. He had seen several cases and knew of others.

The modern cystoscopic examination of a woman's bladder with the simple cylindrical tube and reflected light was perfectly practicable, and every physician should make himself familiar with the appearances of the normal and abnormal viscus. When he did that, he would find that the majority of cases of cystitis in women were localized. The fundus of the bladder would be normal, but at the trigonum and at the mouths of the ureters there would be marked redness or possibly ulceration, and perhaps in one or two other places over the fundus one might find inflamed patches. It was the exception to find the whole of the bladder wall thickened, reddened, and inflamed. When a local spot of ulceration or redness was found, it could be treated locally and actively through the cystoscope, using one ten or twelve millimetres in diameter. Inflamed areas should be touched with a strong solution of nitrate of silver, from twenty to sixty grains to the ounce, or even with the solid stick. If the case was tuberculous, or if there were ulcerations, it might be proper to use the curette, but it was to be used only on the diseased surface. In the very frequent cases of cystitis in women where there was no marked local lesion, and the urine was filled with micro-organisms, the bladder should be irrigated several times daily with a 1-to-80,000 or 50,000 bichloride solution, leaving each time two or three ounces of the fluid in the bladder. If the symptoms were acute, that was done two or three times a day for four or five days, and then once a day. If the physician did it himself or had a nurse do it on whose asepsis he could rely, he would get very satisfactory results. The only apparatus needed was a catheter attached to a glass funnel, and a pitcher to hold the solution. The speaker recalled a number of cases in which he had washed the bladder out carefully and persistently until the bacteriological examination showed that the urine was sterile; the patients had remained well, some of them for three years, without symptoms. It was only exceptionally necessary to make an incision into a woman's bladder. If there was a growth or tumor, or if there was a purulent cystitis that could not be relieved by other methods, make the incision and keep it open.

Dr. Newman said that in the case he had reported a microscopic examination of the secretions from the cervix and vagina was negative. The gentlemen who saw the patient in consultation concluded that the disease had been contracted on account of the large urethral orifice.

Dr. Guitéras said that chronic cystitis in women, and men as well, was very frequently due to catheterism, which was probably the most active cause. That was the way in which germs were usually introduced into the bladder. Every case of cystitis had congestion as its predisposing cause. Tumors, calculi, tuberculosis, and obstruction all caused congestion. The active cause was the introduction of germs, and these germs were introduced through a catheter which was not clean, or they were in the urethra and were pushed back by the catheter, or else they ascended into the urethra in the urine which was very often found in the urethra. Dr. Newman had recommended opening the bladder. The speaker thought that unless there was something in the bladder, unless there was a growth or foreign body, it was never wise to open it, because through the short urethra in women we had one of the best means of drainage that there were. The short urethra in a woman corresponded in length to the incision that was made in the perinæum for drainage of the bladder in a man in chronic cases. As a general thing, by dilating the urethra and washing out the bladder well, one gave great relief in these cases of cystitis in women. He thought a displaced uterus had a great deal to do with the inflammation of the bladder in women, by causing both active and passive congestion. The only case that he could see in which a suprapubic cystotomy could be performed in women to produce beneficial results was, perhaps, one of tuberculous cystitis with a great deal of pain with frequent urination, and in that case it was done simply to relieve symptoms. In regard to curetting the walls of the bladder, spoken of by Dr. Malleson, in certain cases localized curetting of the walls of the bladder was of great benefit—for example, in sessile and villous tumors. In such cases suprapubic cystotomy and afterward scraping the diseased area with a curette was the best method. But it was not best to curette the whole of the bladder. Tuberculous cystitis was one of the commonest varieties and one of the most difficult to treat; and it had been stated by a great many authorities that every case of cystitis that could not be attributed to any other cause was tuberculous.

Dr. SCHROEDER spoke of a case in which vaginal incision had been made, and afterward suprapubic cystotomy and the removal of a papilloma, and spoke of the disease being brought on by trying to cure this vaginal fistula. Probably the exacerbation was brought on in this case by increased congestion, produced by the operative procedure, and such cases were always difficult to cure. In regard to the president's remarks about the examination of the bladder by means of the so-called Kelly tubes, it would seem that we could see the inside of the bladder much better by looking at it through a straight tube than by all the various mechanisms of the cystoscope; but, as a matter of fact, having tried both of these methods, he found the examination by the cystoscope much more satisfactory, and could get much more of the field under observation, but the treating could be done through Kelly's tubes as well as through a cystoscope. In regard to the methods of washing out the bladder with bichloride; bichloride was one of the best solutions for aseptic washing of the bladder that there were. It was also recommended by many authorities in cases of tuberculous cystitis, and, in fact, it was the only local application that was of ony good in cases of tuberculous cystitis, and could be used in the strength of 1 in 10,000 or 1 in 20,000, but injected in small quantities. All the antiseptic solutions were good in certain cases, boric acid, nitrate of silver, permanganate of potassium, mercury bichloride, boro-glyceride, and others, and they were all apt to irritate in other cases. One speaker had referred to a case where there were pain and frequency of urination, but no pus. If there was no pus, the disease was not cystitis. Pus was the pathognomonic sign of cystitis.

The PRESIDENT said that if Dr. Guitéras would accustom himself to the use of the Kelly instrument, as he had to the electric cystoscope, he would find that he could make his examinations in women much easier. He had used both, and found that the Kelly instrument was much better. There were exceptional cases where it was almost impossible to balloon the bladder; in these the Kelly tube was of little use, and the Leiter instrument could be used. Aside from that, the Kelly instrument was much simpler and cheaper, it did not get out of order, and with it one could, after a little experience, examine every portion of the bladder wall.

Dr. NEWMAN asked Dr. Guitéras how he would treat the acute cases he spoke of, in which there was urethritis.

Dr. GUITÉRAS said he had simply spoken of acute inflammation of the bladder; that was a different point.

Dr. NEWMAN said that these cases were so variable, and the uterus was so often involved, that he thought the best way was to open the bladder.

Dr. GUITÉRAS said that if there was pus in the bladder, it could easily be emptied through the urethra.

Book Notices.

A Laboratory Manual of Medical Chemistry. Containing a Systematic Course of Experiments in Laboratory Manipulation and Chemical Action, the Non-metallic Elements and the Medicinal Metals, Quantitative Processes applied to Sanitary Water Analysis, Medicinal Organic Compounds, Proteids, Digestion, Blood, Milk, Uranalysis, and Toxicology. By IRA CARLETON CHASE, A. M., Professor of Chemistry and Toxicology in the Medical Department of Fort Worth University, etc. Fort Worth, Texas: W. W. Underhill, 1897. Pp. vi–3 to 207.

WITHIN this little volume is set forth the laboratory consideration of all those chemical matters which interest and concern the physician, and so clear and deft is the presentation that the subject, which so often has suffered from over-elaboration and ultra-chemical technicality, becomes one of positive interest and consequently one of practical value. Beginning with such brief elementary considerations and instructions as are necessary in laboratory manipulation, the work passes promptly to treatment of its subject and gives ably the laboratory manipulations involved in a medical study of non-metallic elements, metals, water analysis, organic compounds, and bodily fluids and secretions, as well as exercises upon the poisons more commonly used. Now, all these things may indeed be found in many a work, provided only one is willing to search for them, but it is the fault of most of these works that they are plethoric and over-voluminous, and obscure what the medical searcher wants by much which can interest only the chemist. In contrast to such as these the book before us is succinct to a high degree, and the directness and clearness with which medico-chemical exercises are described in it make the work practically unique. A course of study founded upon the contents of such a work as this can not but be a benefit in a medical education, but in default of this the value of the book as a reference and means of individual, albeit occasional, instruction will clearly be great. Both to those who teach and to those who study medical chemistry, therefore, we heartily commend this manual.

Diseases of the Eye. By EDWARD NETTLESHIP, F. R. C. S., Ophthalmic Surgeon at St. Thomas's Hospital, London, etc. Revised and edited by W. T. HOLMES SPICER, M. A., M. B., F. R. C. S., Ophthalmic Surgeon to the Metropolitan Hospital and to the Victoria Hospital for Children. Fifth American from the Sixth English Edition. With a Supplement on Color-blindness by WILLIAM THOMPSON, M. D., Emeritus Professor of Ophthalmology in the Jefferson Medical College of Philadelphia. With Two Colored Plates and One Hundred and Sixty-one Engravings. Lea Brothers & Co., 1897. Pp. xx–25 to 528. [Price, $2.25.]

A SIXTH edition of Nettleship's work is sufficient proof of the statement that the success of the book is due to merit, and it can be safely said to be the best compend in the language for the student and practitioner. Its frequent revision has kept it abreast with the rapid progress of ophthalmology. The American publishers have recognized the existence of a difference which sometimes prevails between the views and practice of

English and those of American ophthalmologists by the insertion of bracketed additions in the text. The arrangement of the subjects is not strictly systematic, but the tendency of the book is to give the reader practical advice as to diagnosis and treatment. This is particularly true of the chapters on cataract and glaucoma and on sympathetic ophthalmia. The views as to treatment of many of the superficial diseases of the eye may be criticised by American ophthalmologists, who will also notice that comparatively little space is given to a consideration of the subjects of skiascopy and the latent anomalies of the ocular muscles. The niceties of treatment are rather conspicuous by their absence. The value of the book is increased by the addition of the chapter on the examination of railway employees as to color-blindness and acuteness of vision and hearing.

The general character of the book tends to directness, clearness, and brevity.

Vade Mecum of Ophthalmological Therapeutics. By Dr. Landolt and Dr. Gygax. Philadelphia: J. B. Lippincott Company, 1898. Pp. v–138. [Price, $1.]

This is a small, portable guide to ophthalmic therapeutics, and, as with all such "aids," the wisdom of its publication is somewhat questionable. The headings are arranged in alphabetical order, and the little book is filled with the formulas for remedies which the authors have found useful in the treatment of various diseases of the eyes.

Sexual Neurasthenia (Nervous Exhaustion); Its Hygiene, Causes, Symptoms, and Treatment. With a Chapter on Diet for the Nervous. By George M. Beard, A. M., M. D., formerly Lecturer on Nervous Diseases in the University of the City of New York, etc. Edited, with Notes and Additions, by A. D. Rockwell, A. M., M. D., formerly Professor of Electrotherapeutics in the New York Post-graduate Medical School and Hospital, etc. Fifth Edition, with Formulas. New York: E. B. Treat and Company, 1898. Pp. xii–13 to 308.

A new number of the "Medical Classics," or more properly a new edition of an old work, is offered in *Sexual Neurasthenia*, devoted to a consideration of the subject of nervous exhaustion in relation to its occurrence in connection with disorders of the sexual apparatus and function. The work is divided into nine chapters, and the subject is treated of consecutively, in its various aspects, from a description of the nature and varieties of neurasthenia to its treatment.

The author describes sexual neurasthenia, in the opening chapter, as a clinical variety, for the most part, of general nervous exhaustion, and mentions the various types into which the subject, as a whole, may be divided. A chapter on the evolution of the sexual sense follows, and succeeding this the relationship of neurasthenia to other diseases is discussed. Next in order of description comes sexual hygiene. The methods of diagnosis and prognosis are dealt with, and following this part of the subject a number of illustrative cases are presented. The treatment of neurasthenia occupies considerable space, the greater part of which is given up to the advocacy of electrotherapeutics. The volume closes with two chapters given to a consideration of diet for the subjects of nervous and sexual erethism.

There is little to be commended in this work, and much that may be criticised. Without going into detail, one may safely assert that nothing of distinct value has been added to the literature on the subject by the volume in question.

BOOKS, ETC., RECEIVED.

International Clinics: A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynæcology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology, and Specially Prepared Articles on Treatment. By Professors and Lecturers in the Leading Medical Colleges of the United States, Germany, Austria, France, Great Britain, and Canada. Edited by Judson Daland, M. D. (University of Pennsylvania), Philadelphia, Instructor in Clinical Medicine and Lecturer on Physical Diagnosis in the University of Pennsylvania, etc.; J. Mitchell Bruce, M. D., F. R. C. P., London, England, Physician to and Lecturer on the Principles and Practice of Medicine in the Charing Cross Hospital; and David W. Finlay, M. D., F. R. C. P., Aberdeen, Scotland, Professor of Medicine in the University of Aberdeen, etc. Volume IV. Seventh Series. 1898. Philadelphia: J. B. Lippincott Company, 1898. Pp. ix–363.

Therapeutics of Infancy and Childhood. By A. Jacobi, M. D., Clinical Professor of the Diseases of Children in the College of Physicians and Surgeons (Columbia University), New York, etc. Second Edition. Philadelphia: J. B. Lippincott Company, 1898. Pp. xvi–9 to 629. [Price, $3.]

"Cataphoresis," or Electric Medicamental Diffusion, as Applied in Medicine, Surgery, and Dentistry. By Williams James Morton, M. D., Professor of Diseases of the Mind and Nervous System and of Electro-therapeutics in the New York Post-graduate Medical School and Hospital, etc. New York: American Technical Book Company, 1898. Pp. 4 to 267.

Lessons in Hypnotism and the Use of Suggestion. Based upon the Neuron Motility Hypothesis. By Leslie J. Meacham. Cincinnati: The Bishop Publishing Company, 1898. Pp. ix–15 to 159.

The Scientific Transactions of the Royal Dublin Society. 1896. Volume V. Series II. Part XIII. Volume VI. Series II. Parts II to VII. 1897. Volume VI. Series II. Parts VIII to XIII.

Transactions of the Obstetrical Society of London. Volume XXXIX. For the Year 1897. Part IV for October, November, and December.

Fourth Annual Report of the Board of Managers of Craig Colony to the State Board of Charities. For the Fiscal Year ending September 30, 1897.

Thirty-second Annual Report of the St. Francis Hospital, New York. For the Year ending December 31, 1897.

The Cure of Vesico-vaginal Fistula by the Free Dissection of the Bladder from its Vaginal Attachments and Closure with the Buried Continuous Tendon Suture. By Henry O. Marcy, M. D., of Boston. [Reprinted from the *Journal of the American Medical Association.*]

Some Practical Thoughts on the Development of the Human Race and Obstetric Nursing. By R. R. Kime, M. D., of Atlanta. [Reprinted from the *Atlanta Medical and Surgical Journal.*]

Personal Reminiscences of Syme. By his former pupil, Donald Maclean, M. D. [Reprinted from the *Medical Age.*]

Can the Dispensary Abuse be Corrected? By Llewellyn Eliot, M. D., of Washington, D. C. [Reprinted from the *Virginia Medical Semimonthly.*]

A Case of Right Subclavian Aneurysm of the Third Portion, cured by the Ligation of the First Portion and Later of the Axillary. Reported by Mr. H. H. Clutton, M. C., of London. [Reprinted from the *New Orleans Medical and Surgical Journal.*]

Miscellany.

Recent Improvements in the Treatment of Chronic Heart Diseases by Exercises and Carbonated-brine Baths.—This was the title of a paper read before the Medical Society of the County of New York on February 28th by Dr. Thomas E. Satterthwaite, who stated that the purpose of his paper was to demonstrate his own method of giving the exercises and carbonated-brine baths in chronic heart diseases. He advocated the resisted movements almost exclusively: the patient made regular voluntary movements resisted by the physician or operator. These exercises were quite gentle at first, and in some cases there was little resistance made by the operator during the entire course. During these exercises the operator always watched the patient closely, so as to detect any weariness on his part or any increased rapidity of respiration or pulse—indications that the exercises should be suspended long enough for the restoration of the equilibrium of breathing or circulation. After each movement there should be an intermission in all cases. The operator should always use both hands, supporting the part that was exercised with some firmness. At the end of each movement the part was to be restored to its natural attitude. During the exercises the patient was directed to breathe naturally. The movements themselves were simply flexion, extension, adduction, abduction, and rotation of the limbs, with movements of the neck and trunk. He usually began with the simple exercise of flexing and extending the wrist, bringing into play by these manœuvres all the muscles of the forearms and most of the muscles of the hands and fingers. Then followed flexion and extension of the forearm on the arm, then separation and opposition of the arms on a horizontal plane, until the extended arms formed a straight line. From this point the return movement was made without force to the original position. If this return movement was resisted there would be fixation of the chest and embarrassment of the breathing, which was to be avoided.

Following these exercises, which were conducted by Dr. H. V. Barclay and an assistant, were a series of other movements, complete enough to bring into play all the principal muscles of the body in an orderly and systematic manner.

Dr. Satterthwaite then stated that during the past few months he had, with the assistance of Dr. Barclay, introduced a new series of what he called *special respiratory exercises,* which were passive in character—*i. e.,* they were not resisted by the operator.

A simple one was as follows: The patient lying on his back with the head a little elevated, the operator, standing at his side, passed his two arms under the chest and then raised it slowly and gently as far as possible without lifting the patient off his bed. Then the chest was allowed to settle back into its former position. This movement was of the nature of that employed in artificial respiration, and was useful in the cardiac degeneration of obese persons and in some cardiac patients with respiratory embarrassment owing to chronic pulmonary disease. In some rare cases of chronic pulmonary disease with a cardiac complication great relief and benefit might be obtained for the patient without danger, if such respiratory exercises were judiciously applied.

Another of these respiratory exercises consisted in elevation of the shoulders. The patient sitting on a stool, the operator, seated on another stool behind him, grasped the axillæ of the patient from before; he then lifted the patient's body upward as far as it would go without leaving the stool, and then drew the body over backward, pressing his knee against the hollow of the patient's back. The body was then allowed to settle down easily into the original sitting posture.

Dr. Satterthwaite said that as a rule the duration of these exercises should be at first about twenty minutes and extend subsequently to half an hour or even an hour, but not longer.

Not only was a moderate amount of exercise daily in the open air desirable, but it formed a part of the treatment. Each day the patient should gradually extend his walk, but steep inclines and hurried movements should be avoided altogether while he was under treatment.

Every course of treatment was preceded by a variable period of rest, during which the patient was thoroughly examined and prepared for the course, much as a patient was prepared for a surgical operation.

At first he gave simple warm saline baths, then he added more salines, then carbonated them, and finally chloride of calcium and the other mineral constituents of the Nauheim waters, gradually increasing the strength of the baths in all of their ingredients as was indicated by the individual case. The duration of an immersion was from four to twenty minutes. The temperature never exceeded 95° F., and rarely fell below 90°, though it was admissible to lower it to 88° or even 85°.

At first the baths were given every other day; then there was an intermission every third day, then every fourth day, and still later every fifth day. A course of baths lasted from four to six weeks.

Almost any one could improvise the Nauheim bath if he could get sea salt or rock salt or any ordinary bathing salt and had at his disposal a wooden, porcelain, or enameled tub.

He did not recommend, however, the use of hydrochloric acid and bicarbonate of sodium to make carbonic-acid gas, because the acid was apt to burn the skin or the clothes, and the evolution of gas was too rapid and of comparatively short duration. Then, the pharmaceutical chloride of calcium was very deliquescent and had to be kept in well-stoppered bottles. He also called attention to the danger of using an impure chloride. Some physicians in reporting on the Nauheim baths had spoken of the "chloride of lime" as an ingredient of the bath. This was a mistake. A physician in a western town had made this mistake and the "chloride of lime" (hyperchlorate of calcium or bleaching powder) had been used in place of the chloride of calcium. As a result chlorine gas had been evolved in large quantities; the patient was got out of the bath without harm, but the nurse had a severe attack of bronchitis and laryngitis.

Such accidents and, in fact, all dangers of the sort were eliminated by the use of simple tablets of an acid sulphate of sodium to replace the hydrochloric acid. Following out the plan of Sandow, of Hamburg, Germany, Mr. H. A. Cassebeer, of New York, had prepared such tablets. Eight of these tablets, or discs, wrapped in heavy lead foil, together with four small packages of the bicarbonate of sodium, were packed in a small wooden box. These ingredients, put together into a fifty-gallon bath, would charge it with one per cent. of carbonic-acid gas. This bicarbonate was almost chemically pure, and the acid sulphate was practically so also. All the water of crystallization had been eliminated from the discs, which contained about forty-two per cent. of free acid and did not deliquesce. They were to be put into the bath from five to ten minutes before the patient was immersed. By this method the evolution of the carbonic-acid gas was continuous until the tablets were dissolved.

In making the brine he used the sea salt, rock salt, or concentrated brine salts (known as Mutterlauge salt) formed by evaporation and boiling of the Mutterlauge, or residue, after the commercial salt had been removed. He first began with our ordinary sea salt, so as to get the benefit of the iodides and bromides contained in it. Then, as larger quantities were used, he substituted rock salt, which dissolved more readily than the sea salt, fortifying it with gradually increasing amounts of the concentrated brine salts. The chief advantage of the latter was that they contained seventy-five per cent. of chloride of calcium in its natural state, together with the other residual salts of the Nauheim springs.

Remembering that these concentrated brine salts contained three parts in four of chloride of calcium, one could always make use of an exact quantity of the chloride by using a proportionate amount of the concentrated brine salts.

A scheme for a six weeks' course of baths would be about as follows:

First Week.—A warm half-per-cent. sea-salt bath (two pounds to fifty gallons); temperature, 95° to 94° F.; duration, four minutes. Intermission on the third day.

Second Week. — A warm three-quarters-per-cent. salt bath (three pounds to fifty gallons); temperature, 94° to 93° F.; one quarter per cent. of carbonic-acid gas; duration, six minutes. Intermission on the fourth day.

Third Week.—A warm one-per-cent. rock-salt bath (four pounds to fifty gallons); temperature, 93° to 92° F.; one half per cent. of carbonic-acid gas; duration, eight minutes. Intermission on the fourth day.

Fourth Week.—A warm one-and-a-quarter-per-cent. salt bath (five pounds to fifty gallons); temperature, 92° to 91° F.; Nauheim concentrated brine salts, eight ounces; duration, ten minutes; three quarters per cent. of carbonic-acid gas. Intermission the fourth day.

Fifth Week.—A one-and-a-half-per-cent. salt bath (seven pounds to fifty gallons); temperature, 91° to 90° F.; Nauheim concentrated salts, ten ounces; duration, twelve minutes; carbonic-acid gas, three quarters per cent. Intermission on the fifth day.

Sixth Week.—A two-per-cent. salt bath (ten pounds to fifty gallons); temperature, 90° to 88° F.; Nauheim concentrated salts, twelve ounces, and carbonic-acid gas, one per cent.; duration, fourteen minutes. Intermission on the fifth day.

Dr. Satterthwaite stated, in conclusion, that the patient did not always feel better after a bath. There might be some precordial oppression, but this discomfort usually passed away at the end of a week.

Baths and exercises each accomplished the same result, but the most rapid and brilliant results were obtained when both were used together. But they were useful only up to a certain point; after this had been reached they were harmful, and if at any time there was a tendency to relapse, the baths should be suspended. Generally, however, they might be resumed after a day or two. The final steps in the treatment consisted in two or three weeks of rest at some place of moderate elevation. In successful cases the improvement was gradual and sometimes did not fully show itself until the patient had resumed his ordinary mode of life. The improvement would continue for many months, and in his own experience sometimes for more than a year.

The objection having been made in the discussion that the exercise movements were unnecessarily particularized, Dr. Satterthwaite answered by saying that he had endeavored to show by actual demonstration the scheme of a course of resisted movements in detail, so that any member of the profession could understand how to apply them in practice. The exercises in his scheme were numbered merely that the physician might select those that were suited for the individual case. It was a convenient way of indicating to the operator the precise exercises that were to be given. He had also shown the discs and sulphate of sodium, so as to demonstrate that any member of the profession could by these simple means charge a bath with any required strength of the carbonic-acid gas.

So far as the actual results on the heart itself were concerned, he thought that was already a dead issue, and that doubters should by this time have been convinced that the heart might grow smaller under this treatment. The fact that the heart did do so had been proved by Röntgen pictures. But the heart did not always grow smaller.

It had been charged that in this treatment there had not been due discrimination as to the proper cases. This statement he resented, so far as his individual experience was concerned. He did not treat by this method cases of acute endocarditis or pulmonary cases with acute symptoms. In fact, the method was limited in its application. The baths and exercises were not intended to supplant other well-established methods, but to extend them. Briefly stated, carbonated baths and exercises were designed chiefly for heart failure or loss of compensation when other means had failed.

Dr. Barclay said that the method of treating heart disease by exercise was not a new one. It had been used in Sweden for the last twenty or thirty years. What was new in the Schott system was not the exercises themselves, for they were identical with those used by the Swedish, or Ling, method, but the selection or prescription of them for this particular kind of cases. While the Swedish treatment applied these resisted exercises chiefly, but not exclusively, to the limbs, and more particularly to the parts below the elbow and knee, the Schott system aimed to act upon the muscles of the whole body. The Swedish, like the Schott system, recognized that the exercises must be extremely mild in character; they must under no circumstances cause any distress; indeed, the success of the treatment depended upon this very fact. From ordinary gymnastics or training we knew that there was a limit, an individual limit, within which exercise would do good. If a person went beyond this limit, a harmful result would follow. In patients suffering from heart disease this limit was very low and very soon reached, hence the great care that had to be observed. To guard against accidents, the Swedish system advocated the sitting or recumbent posture in bad cases, and this, he had been told, was now also recommended by one of the leading physicians residing at Nauheim.

There was some difference in the performance of the exercises. By the Schott method the movements were performed but once each; in the Swedish they might be repeated several times, but, as the force used, or rather the resistance offered, was duly moderated, it amounted practically to the same. As, however, one often had to depend upon operators who were not physicians for the administration of the exercises, and who could not be relied upon in their judgment of the patient's condition or the effect of the exercises, it was readily granted that of the two the Schott system was much the safer. It had also the great advantage of causing a much larger number of muscles to be exercised. In Sweden, on the other hand, what were termed passive exercises were employed extensively and for all parts of the body. These exercises were performed not by the patient but for him, and were entirely safe. Chief among them was the respiratory class. Patients suffering with heart disease were much troubled with dyspnœa, and these exercises, the action of which was to assist and facilitate respiration, are therefore clearly indicated. In fact, the respiratory apparatus was also a chief factor or adjunct to the circulation. During inspiration the venous blood was drawn toward the chest; during expiration the blood was forced from the lungs back to the heart by the pulmonic vein, an action the importance of which was well known. Experience had also proved these respiratory exercises to be of the utmost value, and every patient who had tried them would be able to testify to the relief they gave him. They were a most important complement to the Schott system. As to the therapeutic action of the muscles on the circulation, we were, when speaking about the blood circulation, too apt to think of the heart as the only propelling force. But there were several others. Every time a muscle contracted it emptied itself of blood, and that blood could flow only in one direction—into the veins and by them back to the heart. When it again relaxed the arterial blood flowed easily into it. In each muscle there was thus a force auxiliary to the heart. If we remembered that it was here, in the capillary blood-vessels, that the circulation met with the greatest resistance, and if we further considered that the greater part of our body consisted of muscles, it was easily understood that the appropriate use of muscular exercise must be of great benefit to a weak and failing heart.

The Death of Dr. Ernst Ludwig Schimmer, Professor of Dermatology in the University of Budapest, is announced in the *British Medical Journal* for March 5th as having taken place on February 25th, and it is added that he celebrated his jubilee only last autumn.

Dr. William S. Playfair, of London, announces in the *Lancet* for March 5th his approaching retirement from the professorship of obstetrics in King's College, which he has held for twenty-five years.

Professor Stricker, of Vienna, the renowned teacher of experimental pathology, says the *Lancet's* Vienna correspondent, celebrated on March 1st the twenty-fifth anniversary of his promotion to be ordinary professor.

An Academy of Medicine for Toronto.—The *Canadian Journal of Medicine and Surgery* for March intimates that the various medical societies of Toronto are likely to be amalgamated into an academy of medicine, and it hails the idea with pleasure.

The License to Practise in Maryland.—We learn from the *Maryland Medical Journal* for March 12th that in Maryland extreme dissatisfaction has been caused by the recent rejection of a great number of candidates at a State examination, and that consequently a bill has been introduced into the legislature which aims to make the restrictions very slight, especially for graduates of Maryland schools. "It is greatly to the credit of the profession," says our contemporary, "that so many physicians are fighting this bill."

The Water Supply of the District of Columbia.—The *Maryland Medical Journal* for March 12th states that the senate amendment to the District appropriation bill provides for an investigation into the character of the water supply and as to means of filtering the Potomac water.

The Death of Sir Richard Quain, of London, an eminent physician and medical writer, the editor of *Quain's Dictionary of Medicine,* is announced in recent press dispatches.

Formaldehyde in the Urine after the Administration of Urotropin.—Dr. A. Citron, in an article in the *Monatsberichte des Harn- und Sexual-Apparates* for February, 1898, mentions the contradictory reports which have recently been made on the use and therapeutic value of urotropin when administered internally in the treatment of diseases of the genito-urinary tract, and gives the results of his investigations on the chemistry of the process which takes place in the urine. Urotropin is formed chemically by the union of ammonia and formaldehyde. The body thus produced is a very unstable one and easily decomposed by a very feeble acid, or even the acid sodium phosphate present in the urine, into ammonia, which unites with the acid and frees formaldehyde. In all probability the latter then recombines with some of the sodium salts present, as it can never be recognized in the urine by its odor. The dose of the drug is from five to thirty grains, and its presence in the urine can be determined for at least twenty-four hours afterward. The method is as follows: The urine which it is desired to test is slightly acidified and then placed in a flask or test tube and boiled; over the mouth of the tube is placed a cotton plug soaked with a solution of resorcin in sodium hydrate. The formaldehyde is decomposed into formic acid and methyl alcohol and gives a brilliant red color to the resorcin mixture. When the urine is highly alkaline a reaction for formalin can not be obtained, a fact which illustrates the absolute necessity of keeping the urine sharply acid while treating a patient with urotropin, for otherwise no formalin is set free and therefore the well-known antiseptic action of the latter will not be obtained.

Dr. Freudenberg's Article on Bottini's Treatment of Prostatic Enlargement.—Dr. Alfred Freudenberg, of Berlin, whose article on this subject appeared in the *Journal* for February 12th, asks us to call attention to two errors that crept into it, as follows: 1. Page 207, second column, line 38, for "the theory was warranted," read *the theory was not warranted.* 2. Page 209, first column, line 31, for "Lackur," read *Sackur.*

Idiopathic Gangrene of the Skin of the Lids and Brow.—At a meeting of the Section in Ophthalmology of the College of Physicians of Philadelphia, held on February 15th, Dr. B. A. Randall showed one of three children who had suffered from such an affection, from unknown cause, and recurring. The children were one, three, and five years old, of healthy parentage and good environment. Two had recovered; the baby had succumbed. In the patient shown the right upper lid was lost and the deep ulceration on the brow, nose, and lower lid had led to keloid scarring, epicanthus, and ectropion. The destruction of the soft tissues was greatly enhanced by the second attack from which all the children suffered. During the first attack they were all seen and treated by Dr. Harlan at the Wills Hospital.

In the discussion, the chairman, Dr. George C. Harlan, said that the first of the three children attacked with this mysterious disease was a few months old. It had a deep black slough of the skin of both upper lids and of the root of the nose, which, when removed, left a deep ulcerated surface of the same extent. Both corneæ had also sloughed and the balls were shrunken. As diphtheria was suggested as a possible cause, some of the discharge of the eye was sent to the city bacteriological laboratory for examination, and the presence of diphtheritic bacilli was reported, but he had never been altogether satisfied with this view of the case, and the subsequent history of the other cases seemed to render it improbable. The child did well and was discharged with the ulcerated surface completely cicatrized. The other children were attacked at their seashore home while separated from this one. They were well-nourished, healthy-looking children, and the parents were robust. The house in which they lived was a new one, never having been occupied by other tenants, and with good sanitary surroundings.

Another Yellow-fever Germ.—It is reported in the daily press that Dr. Edwin Klebs, professor of pathology and bacteriology in the Post-graduate Medical School, and of pathology in the Rush Medical College, Chicago, has discovered another germ which he thinks may be the real cause of yellow fever. This organism is entirely distinct from the bacillus of Sanarelli. According to the report, Dr. Klebs maintains that the disease is due to an amœba which enters the system only through the medium of food and drink, in much the same way as that of the typhoid bacillus. After gaining entrance into the duodenum it sets up a characteristic growth, in appearance resembling a blackberry. From this point it is conveyed to the liver, where it is still seen as an amœbic body of twice the size of a red blood cell. A rapid process of degeneration of the substance of the liver then ensues by the growth of this organism. This germ has not been cultivated artificially, and no experiments on animals have yet been made, so that the report is probably premature. It is said to have been stained with a mixture of fuchsine, methylene blue, and methyl green.

A Curious Case of Injury due to Lightning is reported in the *Prager medicinische Wochenschrift* for February 10, 1898, by Dr. Edward Weisz. The patient had been injured by lightning two years before his admission, and, according to his story, he was almost completely unconscious for three days, after which he gradually regained his powers, but never perfectly. He was completely paralyzed for nearly three weeks, and even then required two months more to regain any power in walking. His hearing was also very defective in the left ear, though perfectly good previously. The whole anterior surface of the body and the inner surface of the left thigh and leg were deeply burned. Since the accident the patient had been able to do light work, but was compelled to stop work every month or so because of severe pain in his whole body and excessive weariness, which became more marked on any change of weather. At the time of his admission he was a moderately well nourished man, with no evident disease of the viscera. Over part of the anterior portion of the body the skin was perfectly white, with well-marked elevations like those seen on the skin of a picked bird and with but a very few fine hairs. Below, on the inner surface of the thigh and leg, were broad parchment-like strips, the remnants of the old burns. Nothing else could be found, except an increased knee-jerk, some ataxia of the lower extremities, and a rather weak hand grip. The hearing in the left ear was still very defective. As is well known, says the author, the effects of lightning are very various, at times simply destructive, without any great amount of heat generation. This case illustrates very well this combined action in the shock to the brain and the burns on the body, and an additional evidence is the partial melting of a coin carried by the patient. The other symptoms of the case seem to have been very probably functional, since they were much improved by hydrotherapeutic measures.

The Section in Neurology and Medical Jurisprudence of the American Medical Association.—The chairman, Dr. Charles H. Hughes, of St. Louis (No. 3857 Olive Street), requests from everybody who is interested in neurological progress brief memoranda of progress made during the past year, for use in the preparation of his address to be delivered before the section at the meeting in Denver, in June.

Experimental Researches regarding Anemone Pulsatilla.—Noel and Lambert, in the *Archives de pharmacodynamie,* 1897, page 169 (*Presse médicale,* February 26th), give the results of their experiments in regard to the comparative action of the extracts of the fresh plant and that of anemonin. In these experiments they employed the commercial anemonin from various sources and the different preparations of the fresh anemone, such as macerations, infusions, and fluid extracts. The dried anemone presented scarcely any activity. The toxicity of anemonin was comparatively weak, and its action slow; it was variable according to the samples obtained.

These results, compared with those previously published, show that the anemonins used in these experiments are less active than those of Nola and of Broniewski. The fatal dose for the guinea-pig is from two grains to two grains and a half to a kilogramme. The yield of anemonin is about one in a thousand; therefore, from two grains to two grains and a half represent from three ounces and three quarters to four ounces of the plant.

The local action of anemonin is almost *nil;* its effects are due to an action on the central nervous system; the muscles and the motor nerves are not influenced. The preparations of fresh *Anemone pulsatilla* have an entirely different action. The toxic dose for a guinea-pig is from forty-five to sixty grains to a kilogramme. Dogs tolerate a hundred and fifty grains without succumbing; there seems to exist in them an immunity against the products of the fresh plant as well as against anemonin.

The products of the fresh plant invariably give rise to convulsive symptoms. *Anemone pulsatilla* is an energetic muscular poison; the cardiac muscle is paralyzed by the fresh plant and is not affected by anemonin. The fresh *Anemone pulsatilla* has vaso-constrictive properties, while anemonin does not possess them.

The fluid extract of anemone may be given to man in daily amounts of from seventy-five to a hundred and fifty grains. This preparation preserves the properties of the fresh plant for a long time. It seems to have favorable effects in the treatment of disorders of menstruation and especially in epididymitis. The effects obtained with this extract differ from those produced by anemonin.

The New York Academy of Medicine.—At a stated meeting of the Section in Pædiatrics, on Thursday, March 17th, the order for the evening was as follows: A report of the committee on the special donation to the library from the New York Hospital, by Dr. William M. Polk, and a paper on The Ultimate Results of Thyreoid Treatment in Sporadic Cretinism, by Dr. Henry Koplik, which was to be discussed by Dr. William Osler, of Baltimore, Dr. A. Jacobi, Dr. M. A. Starr, Dr. W. P. Northrup, Dr. F. Peterson, Dr. G. W. Crary, and others.

At the next meeting of the Section in Ophthalmology and Otology, on Monday evening, the 21st inst., a paper entitled The Clinical Value of the Bacteriological Examination of the Conjunctiva and Cornea will be discussed by Dr. W. H. Holden, Dr. J. E. Weeks, Dr. G. E. de Schweinitz, of Philadelphia, and others.

At the next meeting of the Section in Laryngology and Rhinology, on Wednesday evening, the 23d inst., a discussion on The Deviation of the Nasal Sæptum will be opened by Dr. Myles and Dr. Delavan, and one on The Technics and Sequelæ of Operations for Nasopharyngeal Adenoids, by Dr. Phillips. Cases will be presented and new instruments and apparatus will be exhibited.

At the next meeting of the Section in Neurology and Psychiatry, on Friday evening, the 25th inst., the following papers will be read: A Detail in the Nutrition Estimate of Neurasthenics, by Dr. Mary Putnam-Jacobi; and Epileptic Insanity, by Dr. Frederick Peterson, which is to be discussed by Dr. Pearce Bailey, Dr. L. F. Bishop, Dr. J. W. Brannan, Professor J. H. Hyslop, Dr. J. F. Terriberry, and others.

Dysuria and its Treatment.—Mendelssohn (*Therapeutische Monatshefte*, January, 1898), in discussing the causes of dysuria, includes the conditions in which there is a purely mechanical obstruction and those in which there is increased frequency of micturition, and, finally, strangury in consequence of pain on the passage of any amount of urine. In the case of the purely mechanical obstruction to the flow of urine, the condition may be either weakness of the bladder itself or the presence in the urethra of an obstruction due to scar contraction or prostatic hypertrophy. In stricture cases the bladder wall usually possesses its normal musculature or it becomes hypertrophied, while in the prostatic cases some weakness is generally present. In this connection might be included those cases in which the bladder is involved in paraplegia, paralyses caused by voluntary retention until the muscular coat is distended and weakened, and involuntary retention in persons who are unconscious.

The treatment of such conditions is to remove the obstruction by operative or mechanical means and to insure the regular emptying of the bladder. The second form of dysuria, that with increased frequency and necessity of immediate emptying of the bladder, is generally dependent upon an increased irritability of the mucous membrane. The starting-point for this reflex impulse which necessitates an immediate emptying of the bladder, though it may only contain a few drops of urine, is the muscular tissue around the prostatic portion of the urethra and the muscle of the bladder walls. There is a loss of the normal coordination between the two, both contracting at the same time, and the final result is that a small amount of urine is squeezed past the contracted sphincter with a great deal of distress to the patient. The pathological condition which is sometimes found is that of an old inflammatory thickening of the walls, but the disease is much modified by individual conditions, such as anæmia, neurasthenia, and excessive drinking. The treatment is to remove the underlying disease by improvement of the general condition, diet, bicycling, and the correction of any alcoholic or sexual excesses. The third form is characterized by the increased pain referred to the bladder, especially at the time of micturition. The causes are inflammation of the mucous membrane or of the posterior urethra, residual urine from any cause, and calculi in the bladder. Treatment is, of course, operative when that is possible; if it is not, rest in bed, the use of hot sitz-baths, and local bloodletting, the employment of narcotics only as a last resort.

The Treatment of Fatty Heart.—In view of the frequency of its occurrence and the important consequences it involves, says a writer in *Treatment* for February 24th, there are few conditions of the cardiac muscle of such great interest as those in which its fibres show a fatty degeneration or in which fatty infiltration impedes its action. Starvation of the muscle from morbid impermeability of its nutrient vessels, the influence of a general and profound anæmia, and depression of the trophic influence of the vagus, may, he says, all play a part in different cases. Their malign influence may be combined in any single case, and the treatment of such cases presents difficulties which are in some instances insurmountable.

Referring to the other class, that in which the heart is overlaid by fat, and its textures are infiltrated by it, the writer quotes the *Revue médicale* for January 31, 1898, which, he says, gives the substance of a paper on the treatment of this variety by M. Pliques, which appeared in the *Presse médicale*. In this paper it is very carefully pointed out that the necessary reduction of the *embonpoint* of such patients is a process that requires the utmost circumspection. For instance, when a long interval is prescribed between meals, physicians must be guided by the force of the heart and the occupation of the patient. He need not necessarily be bedridden. Many fat men with weak hearts are compelled to exert themselves continuously in more or less arduous fashion, and in such cases the intervals between meals can not be made so long as in the case of the favored mortal who luxuriates in all the *dolce far niente* of a fashionable watering place.

Dr. Pliques's general directions, the author continues, are those usually given, such as to employ diuretic drinks, it may be a reduction of fluid food, the elimination of sugar and fat from diet to a greater or less extent, the abandonment of alcohol and tobacco, and regulated exercise. He recommends the careful use of thyroid gland, a half or whole one being given daily, and appears to prefer the use of the natural structure to the extract much used in this country. As a cardiac stimulant he prescribes the hypodermic injection of sparteine, and considers that its use may be necessary for a considerable period.

It is well, the writer thinks, to be exact in regard to the amount of food allowed to an obese patient, and to remember also that the size of the patient and the degree of the adiposity have to be borne in mind in laying down his dietary.

Moleschott, he says, calculated that the average human being required at least four ounces of meat, two ounces and a half of fat, and about twelve ounces and a half of carbohydrates daily. In some "systems," which have been more or less generally practised, there has been a tendency to eliminate one or other of the essential elements of food too much.

For instance, in the Banting system, the practitioner aimed directly at the reduction of the fat. That was reduced to about a quarter of an ounce *per diem*. Only two ounces and a half of carbohydrates were allowed, but the prescriber relented in the matter of meat, allowing the patient five ounces and a quarter or so a day. Ebstein was less generous than Banting in the matter of carbohydrates and meat, allowing only an ounce and a half of the former and three ounces and a quarter of the latter, but he boldly doled out rather more than two ounces and half of fat a day. Finally, Oertel, by whose recent death cardiology has lost a profound and rational thinker, struck the happy mean between these extremes, and prescribed from four ounces and three quarters to five ounces and a half of meat, from three quarters of an ounce to an ounce and a quarter of fat, and from two to three ounces of carbohydrates daily.

Bearing in mind the enormous reduction from the normal consumption of carbohydrates, it is plain, the writer continues, that special care has to be taken not to restrict too much the other elements of food, or to make the patient consume his own fat too entirely and too rapidly. With so low a dietary it is manifest that exercise must be of a carefully regulated character, and it is such cases which frequently, in connection with a careful dietary, yield very good results to a course of Schott movements, which prepare the patient for the safe indulgence of more active exercise.

The Treatment of Gastro-intestinal Influenza.—In the *Presse médicale* for February 19th M. L. Landouzy lays down the following rules to be carried out in the treatment of this affection: The catarrhal gastro-intestinal condition should be treated; the condition of the patient's strength should be modified; the vascular tension should be relieved; and the patient should be depurated and nourished. Modifications in the nutritive and functional qualities of the mucous membrane of the stomach and of the intestine should be brought about; diuresis should be provoked; and a stimulation of the nervous system should be brought about which will accelerate and regulate the specific function of each apparatus.

The treatment, which should be instituted immediately, is to be carried out in the following manner: 1. In a third of a glass of warm water two capsules, each containing eight grains of powdered ipecac, are to be given at an interval of five minutes. 2. Do not allow the patient to drink anything until after vomiting has occurred and he no longer feels nausea; then either a cupful of good hot, black coffee or hot grog may be given. 3. At noon and at night administer a warm enema of nine ounces of boiled water in which a hundred and fifty grains of sodium borate have been dissolved. 4. Apply permanently over the abdomen from the epigastrium to the pubes a large, light, and hot poultice. 5. In the afternoon administer a hypodermic injection, consisting of three ounces of boiled distilled water and twenty-two grains of sodium phosphate, in the abdominal wall. 6. In the evening introduce into the rectum, half an hour after the enema has been evacuated, a suppository containing seventy-five grains of cacao butter and eight grains of quinine hydrochloride. 7. Frequent washing out of the mouth and throat should be done with a solution of two hundred and twenty-five grains of boric acid in sixteen ounces of boiled water. 8. Drinks, such as iced milk or bouillon, in small quantities at a time may be given, also sparkling champagne diluted with water; solids, such as meat jelly, cream, and mulled eggs may be given.

On the second day the same treatment is to be carried out, with the exception of the use of ipecac. On the third day an injection of artificial serum may be added to the treatment, and apple sauce and stewed fruits to the diet. During the following days a hypodermic injection of artificial serum may be administered every other day, and the employment of the enemata and the lavage of the throat should be continued. The diet may be increased as follows: Soup, buttered eggs with asparagus tops, boiled lettuce, potato soup, and cooked fruits. After convalescence has set in the patient should still remain in bed for five days, and return progressively to an ordinary diet, which may consist of lamb, eggs, cooked green vegetables, dried-vegetable soups, cooked fruits, etc.; as a drink, champagne may be continued. With the first meal in the morning a pill containing a milligramme of strychnine arseniate and a sufficient quantity of pulverized licorice root is to be taken. Directly after the midday meal and the dinner a teaspoonful of the following mixture is to be taken:

℞ Cinchona wine (made with old Malaga)	14 ounces;
Sodium phosphate	225 grains;
Syrup of bitter-orange peel	525 "

M.

Night and morning the body should be subjected to an energetic rubbing for six minutes with a flannel glove saturated in lavender water. It is well to prolong the rest in the house for some days, even when the patient feels completely restored, to avoid any change of diet, and to guard against sudden cold, which, during epidemics of influenza, may cause a fresh attack of catarrhal inflammation.

The Employment of Thallium Acetate in the Night Sweats of Phthisis.—At a recent meeting of the Académie de médecine, a report of which is published in the

Gazette hebdomadaire de médecine et de chirurgie for February 24th, M. Combemale stated that he had employed this drug in the form of pills containing 1.75 of a grain. It had given him remarkable results in more than thirty cases, tuberculous and non-tuberculous, in two only complete relief not having been experienced. This drug, he said, reached its maximum effects in cachectic subjects. To obtain the desired results the dose employed was generally 1.75 of a grain; exceptionally, 3.5 of a grain. Very frequently a single dose had sufficed, and the drug had never been administered for more than seven successive days. However, when the thallium acetate produced no effect on the fourth day, it was useless to insist on its employment.

The Therapeutic Value of Arsenauro.—In the March number of the *Buffalo Medical Journal* Dr. A. P. Buchman states that for the past four years he has employed arsenauro very extensively in his practice because of its universal good effects in the special line of work that he has engaged in.

The first case, he says, in which he observed gratifying results following the administration of arsenauro was that of a traveling insurance adjuster who had suffered with gastric indigestion during a period of five years, in consequence of which his blood was impoverished, his nervous system was shattered, and the whole organism worked at the lowest possible pressure. The particular symptom that he consulted the author for was insomnia, which was so persistent that he had been obliged to give up work.

The treatment instituted by the author was as follows: A thorough cleansing and disinfection of the digestive tube was the first step, after which the diet was carefully regulated, so as to insure the greatest quantity of nutrition for the least amount of energy expended by the digestive forces. Bathing, massage, and electricity were ordered, and the usual carminative and tonic drugs were administered. This treatment was persisted in for a month, during which time there was a noticeable improvement, but it was not sufficient, says Dr. Buchman, to give satisfaction to the patient or to himself. He then gave up the employment of the former drugs and substituted arsenauro, which was administered in ten-drop doses four times daily. In ten days the patient was sleeping comfortably, eating and digesting fairly well, and altogether was sufficiently recovered to resume work in moderation. After two months' constant use of the drug he stated that he had entirely recovered and was able to perform the exacting work required of him with ease and pleasure.

This case, Dr. Buchman thinks, will suffice to illustrate the groove into which arsenauro fits so perfectly. It changes the chemical movement in the blood plasma. The movement of the atoms thus initiated continues; new material takes a more pronounced part in the various phenomena of motion and life; the lymphatic glands are changed to healthy action, and their products become normally reconstructive; cell digestion is stimulated, and the blood is improved up to a normal standard. To accomplish these results, however, continues the author, it is not enough to simply give arsenauro; the preparatory work employed by him in the case cited is, he says, absolutely essential, without which arsenauro, like other drugs given out of time and place, will yield only negative or indifferent results.

Dr. Buchman states that he has never secured from Fowler's solution the fully desired arsenic results which have invariably followed the administration of arsenauro, although the average dose of arsenauro contains very much less actual metallic arsenic than Fowler's solution does. Evidently, he thinks, there is an entirely new agent in arsenauro, something more than the mere combining of arsenic and gold, for on evaporation arsenauro yields a crystal which is not the crystal of arsenic or of gold, but such a crystal, the author states, as he has never seen before. He emphasizes the fact that he has observed no evidence of arsenical poisoning from the use of this drug, that it does not produce cumulative effects, but is easily and promptly assimilated.

Apparent Death following Post-partum Hæmorrhage; Restoration by Means of Hypodermic Saline Injections.—A detailed account of this case is recorded in the *Gazette hebdomadaire de médecine et de chirurgie* for February 24th by M. Gimbert, of Cannes. At the time the author saw the patient she was in a very alarming condition, and the loss of blood was so great that he thought it could have been caused only by a detachment of the placenta. The family, however, did not seem to be alarmed, and said that the patient had always presented very alarming symptoms of the same nature during previous confinements. However, the blood flowed in streams and the uterus, which was inert and filled with blood, extended beyond the umbilicus, the pulse was almost gone, and the strength was visibly diminishing.

At once the author tried to compress the aorta, which was difficult to reach because of the distended condition of the uterus. At the same time with his free hand he excited contractions of the uterus by passing rolled towels saturated in boiling water backward and forward over the abdomen, by injecting ergotine under the skin, and by strong stimulating drinks. The uterus finally contracted rapidly and in three minutes it returned to its normal size. The placenta was then expelled and was followed by a fresh hæmorrhage, which, however, was arrested. The hips were raised, and the parts were antiseptically washed and dressed with salol gauze. The loss of blood, which was estimated at about three pints, had, however, exhausted the patient's power of resistance, and she soon began to sink, and presented all the signs of death. The body, the head especially, diminished in size, and the skin became glazed. The heart-beats and the pulse could not be felt, and there was no respiration or a reflex of any kind.

The body was then placed across the bed with the head resting very low down on the knees of the midwife, and the feet elevated. Insufflation from mouth to mouth was made, and rhythmic traction of the tongue was practised in order to excite the respiratory reflexes; at the same time the author tried to arouse the cardiac plexus by applications of boiling water, and the ocular, plantar, and pulmonary reflexes by various means of excitation. Nothing availed, however, and transfusion was decided upon, the husband offering to have a vein opened. This, however, was too slow a process and a saline injection was substituted. With a syringe containing about twenty cubic centimetres a series of injections was made while the excitation of the reflexes was continued. In this way forty cubic centimetres were passed through a puncture made in the left gluteal muscle without any result; another injection of twenty cubic centimetres was then made in the calf of the right leg. During this procedure the author observed that the swelling caused by the injection in the left side had disappeared, and, finally, after sixty cubic centimetres had been injected the patient gave a slight cry. However, the heart apparently did not beat. A fourth syringeful was then injected and the excitation of the respiratory and cardiac reflexes continued until the author felt very feeble but real oscillations in the right radial artery; there were some contractions of the face, and there were reflex movements of the eyelids when the conjunctiva was touched; there was also a voluntary withdrawing of the tongue, upon which rhythmic traction had been kept up, and there were some movements of inspiration.

With a great deal of trouble the patient was made to swallow drop by drop some very hot coffee, then some bouillon and cognac. Gradually she recovered consciousness, the two radials beat in unison, the heart sounds could be heard, respiration became deeper, and the skin became warm. The patient was then put back in bed with her head lowered and her feet elevated. Three hours afterward all danger from syncope seemed at an end, and the author left her for a few hours in the care of the midwife.

In the evening the temperature was 100.2° F., but there was no apparent fatigue; during the night and on the following days the use of restoratives was continued.

The site of puncture of the left gluteal muscle was swollen, painful, and red, but it was only a simple irritation, and no bad consequences followed. Slight paralysis of the bladder and of the intestine was observed, and on the fifth day a violent fever set in with a chill; it was at first intermittent, and the temperature oscillated between 102.1° and 104° F. Puerperal fever was feared, but the fever disappeared spontaneously. On the ninth day the first pains of a left femoral phlebitis manifested themselves, and this condition lasted for two months. Gradually, however, these troubles disappeared, and the patient entirely recovered.

This case, the author thinks, furnishes instruction of many kinds. The primordial power of the serum in this instance, he says, can not be contested. The physiological treatment, the rhythmic traction of the tongue, insufflation, the direct excitation of the reflexes contributed, without doubt, to stimulate the functions of the organs after the heart became reanimated, but it was entirely powerless up to that moment. Life, nevertheless, would have been restored by a repletion of the heart that excitation could not supply, but which the serum only could give.

The Treatment of Senile Gangrene.—In an article on this subject in the January number of the *Medical Chronicle,* Mr. Thomas Jones considers the treatment of this disease under two heads—namely, local and general. The first, he thinks, is of even greater importance than the second, as the prompt adoption of suitable local treatment may result in such a limitation of the gangrenous process as to bring the disease within the sphere of a curable condition.

The treatment is as follows: The skin of the foot and leg should be thoroughly cleaned; the immediate vicinity of the dead part should be freely dusted with iodoform and covered with corrosive sublimate or salicylic wool, the whole being kept in place by a flannel bandage carefully, evenly, and not too tightly applied. If there exists a small ulcerated surface or a patch of necrotic tissue with some discharge, the dressings applied to this part may have to be renewed daily or on alternate days. With the application of such a dressing and the observance of rest an improvement in the local appearance may be expected, although any change for the better will be necessarily slow and possibly fitful.

Artificial heat, continues Mr. Jones, in the form of poultices, fomentations, etc., should be absolutely discarded, as they are not only useless, but positively injurious. The object should be to remove or diminish the chances of septic infection, both local and general, to keep the parts as dry as possible, and to encourage mummification of the dead tissues. Placing the limb near a fire or plunging it occasionally into hot water is very objectionable, as it may seriously embarrass the circulation.

Pain, which is often of a distressing character, has to be met by the administration of opium. The chief objection to the use of this drug, its constipating action, may be overcome by combining it with an occasional dose of castor oil. Locally, to check pain at the junction of the dead and living tissues, the author has found that the application of a powder composed of boric acid, bismuth subnitrate, and morphine hydrochloride acts very beneficially. In some cases the pain is so severe and persistent that the only remedy, he says, is removal of the limb. Some authors, he continues, recommend that the tags of dead tissue should be removed, but he condemns this practice, as the slight irritation arising therefrom may prove to be prejudicial, and, in some cases, has actually led to an extension of the gangrenous process, which had become limited.

The author thinks we may conclude from this that there are cases in which the efforts of Nature are sufficient to lead to recovery; for example, those cases in which the gangrene is very limited, involving, perhaps, little more than the skin, and in which the necrotic changes are attended with but a slight amount of constitutional disturbance, as the patient's strength holds out well and shows no sign of failing. The main element in the treatment is patience while the dead part is being detached and the surface heals by granulation.

The most important part of the subject, according to the author, is the question of amputation in senile gangrene when the disease is advancing. Those, he says, who have had any experience in the matter are agreed that amputation anywhere in the vicinity of the gangrenous part is useless; the results are disastrous. Frequently this treatment has led to the appearance of gangrene in the stump, or a wound has been left which showed few signs of repair, or took a very unusual time to cicatrize. Mr. Jones quotes Hutchinson's dictum as follows, and advises its adoption: "I would abstain as scrupulously in senile gangrene as in frostbite from any interference with the knife near to the dying part."

This, continues Mr. Jones, applies to all amputations of the foot when gangrene has attacked the toes. The vitality of the tissues cut through is so imperfect that their power of resistance to the entrance of septic micro-organisms is exceedingly small, and septic inflammation ending in necrotic changes is almost certain to follow. It may be laid down, then, he thinks, as an absolute rule, that for gangrene of the toes amputation of the foot should not be performed. Amputation of the leg is not attended with any better results, and it is, moreover, subject to the same objection—the almost certain reappearance of gangrene in the stump.

These considerations show very clearly, the author continues, that there are limitations to a choice; amputation must be done through the lower third of the thigh, or, in some favorable and somewhat exceptional cases, through the knee joint. If the conditions permitted, the latter would undoubtedly be the operation chosen, for, if the method of Stephen Smith is adopted, the tissues severed are of the simplest kind, and the parts are disturbed very little. The operation at this level is contraindicated in cases in which no pulsation can be detected in the popliteal, for if the small additional blood supply furnished by the smaller arteries about the knee is lost, the probability of gangrene is very great. It seems to the author, therefore, that when the choice of a high amputation is being considered, the state of the arteries must have a determining influence. In cases of doubt, he thinks, the best practice would be to amputate through the lower part of the thigh. The frequency of extreme calcareous degeneration of the femoral and popliteal arteries, and of their occlusion, is a very strong argument in favor of the high amputation. This operation, he adds, is not attended with a very great mortality, and compares most favorably with other methods of treatment adopted in senile gangrene.

There are other cases, the author goes on to say, in which amputation is not to be thought of; those, for example, in which the general condition of the patient is so bad from sepsis that there is a certainty of a fatal issue to the operation. The presence of sugar or albumin, either separately or in combination, in the urine will also add very greatly to the risks. Mr. Jones here gives two rules to be carried out in dealing with senile gangrene: 1. When the gangrene is limited to one or two toes, and the patient's condition is and remains satisfactory, the physician should be content with the expectant plan of treatment, taking precautions to lessen or to prevent the effects of local septic infection. 2. When, however, the gangrene has reached the metatarsus, the physician should be prepared to carry out the high amputation—that is, amputation above the knee, or, in rare and favorable cases, through the knee joint.

Mr. Jones specially emphasizes one point in regard to amputation—namely, provision for drainage. In gangrene, he says, septic matter may gain access to the lymphatic system and be distributed far beyond the limits of the dead part, and if no means of escape are provided for fluids which may collect in the stump and become septic, normal healing will be prevented. It will, therefore, conduce to the ultimate and more perfect union of the flaps if a drainage-tube is introduced and left in the stump for a few days.

The New York Skin and Cancer Hospital.—On Saturday, March 5th, the new building, on the corner of Second Avenue and Nineteenth Street, was opened with appropriate ceremonies in the presence of a large number of people.

After a few introductory remarks by the president, Mr. J. Cleveland Cady, Dr. Jacobi, president of the medical board, made an address dwelling on the necessity and value of special hospitals and the work of this institution in particular.

Dr. L. Duncan Bulkley then made an address, reviewing briefly the origin and early history of the hospital and its work during the fifteen years of its existence. He called attention to the fact that the old city of New York had grown at the rate of fifty thousand inhabitants a year for the past ten years, and suggested that the hospital accommodations had not kept pace with the growth of the city. He mentioned that most of the other special departments of medicine had special hospitals, but until the establishment of the New York Skin and Cancer Hospital there had been none of the kind in this city or country. He instanced the large provision made for skin diseases in Paris, Vienna, Berlin, and all the cities of Europe, Great Britain having twelve special hospitals of this kind.

Beginning in a very small way, and with no endowment or pledged support, the hospital had received $375,000 during the past fifteen years, of which $75,000 had come from the board of patients and the sale of drugs to out-patients. Of the $300,000 contributed from outside, the hospital now had $25,000 invested for five free beds, and had paid $150,000 for the new building, which was free of debt. But, as it had no permanent or definite income, he earnestly pleaded for gifts and moral support from those present.

During the fifteen years the hospital had treated 25,031 patients, of which 22,159 had been out-patients, who had made 118,154 visits to the hospital, and for whom 132,263 prescriptions had been written and filled. The 2,872 in-patients had spent 165,077 days in the hospital.

He called attention to the value of the hospital as an educational centre, saying that thirty young men had been internes, and had acquired a good knowledge of skin diseases. He also stated that it was proposed to have clinical lectures in the hospital, free to physicians, which were to be illustrated by a collection of Paris models and colored plates which had been loaned to the institution.

The new building is a modern fire-proof structure of four stories and basement, containing about sixty beds for patients. Of these, seven are in private rooms. On the top floor there are a modern operating room, well equipped, the Worden ward for children, and most of the private rooms. On the next two floors are four wards for male and female patients with diseases of the skin and cancer. On the ground floor is the large out-patient room, with consulting rooms, pathological laboratory, drug room, office, reception room, etc. In the basement there is a complete set of baths, including the Turkish, Russian, needle, and plunge baths, besides the kitchen, laundry, dining rooms, etc. The lighting, heating, and ventilation are of the most approved kind.

Adulterations of Food.—The wholesale adulteration of food has been thoroughly investigated by the Pure Food Congress which recently met in Washington, the object of which is to promote national legislation to prevent the adulteration of food, drinks, and drugs. It was brought out at this meeting that citizens of the United States paid annually $90,000,000 for sawdust, sand, soap grease, and horse fat, previously treated with certain chemicals before being used. It is said that one child in six dies from impure milk, and that more persons die of typhoid fever from drinking impure water than from alcoholic stimulants. Wheat flour has been found to be adulterated with damaged peas, ground rice, and soapstone; olive oil made from cotton seed; grated horseradish made from turnips; and sago adulterated with potato starch and powdered sugar with glucose, flour, clay, and sand.

"Coffee beans" are made of potato starch imported from Germany. Cheeses are made from skimmed milk and lard, and oleomargarine from refuse pork, fat, bone fats, candle grease, soap grease, and horse fat. Cream of tartar often contains as much as five per cent., of oxalic acid. Cheap candy is often adulterated with terra alba, arsenic, sulphate of copper, and prussic acid, and colored with aniline dyes.

Original Communications.

PROGRESS IN MEDICAL EDUCATION.

By RICHARD ELLIS, M.D.,
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OF THE SHERWOOD MEMORIAL EYE INFIRMARY.

THE day of saddlebags and calomel, of long country rides ending in a sure phlebotomy, disappeared so completely with our grandfathers that a physician of the old school to-day is like Holmes's "last leaf upon the tree in the spring" as it clings to the "old forsaken bough" in an environment of solitude.

As our grandfathers saw the last of the old physician, so our fathers have seen the birth of the new physician, while we, the sons, have watched his growth and development, until to-day the modern physician occupies an enviable position in the army of scientific men who are gaining such brilliant victories over jealous Nature.

This is the day of the university—stately, dignified, and respected. To-day, Medicine proudly takes her position as one of the educational departments of a true university.

To-day, this majestic queen, typifying the onward march of medicine, greets us; she has long since outgrown the swaddling clothes of her childhood, and stands before us magnificently draped. How beautiful she is! In every line of her face is written scientific aspiration and progress; her very pose indicates a restless yearning.

At her feet I see the little school, with its three professors constituting the "faculty"; resting her hand affectionately on the modern medical school of to-day, a busy beehive of persistent investigation and study, she points upward and onward with pride and with hope.

How broad and deep this development has been can be appreciated when we compare the elaborate chemical, physical, and physiological laboratories of to-day with the old chemical laboratory of honored Dr. Silliman, still standing on Yale's campus. Such a contrast vividly shows a tremendous growth, which is, however, but the sunrise of a magnificent scientific epoch in America.

Yesterday, the European, with reason, derided our weak professional schools; to-day he respects them; to-morrow he will attend them. The condition of our great medical schools in leading medical centres is quite satisfactory; capital has furnished a congenial environment for development; natural selection has furnished rare talent, and Nature has furnished such an abundance of clinical material that an American may well hesitate in his selection of America or Europe for post-graduate study.

Physicians who have recently pursued their studies in America as well as in Europe sincerely believe the same study in New York, Philadelphia, Boston, and Baltimore produces as great a return as in London, Paris, Berlin, and Vienna; certainly and surely so if the post-graduate speaks neither French nor German.

The advantages to-day of Europe over America, from a post-graduate's view, are: 1. "You can see more and have a better time." 2. "The great specialists of America are harder to 'reach' than those in Europe."

Both of these statements are true, yet neither is of importance enough to make all decide in favor of Europe.

The course of study to-day offered to post-graduates in our leading schools is broad and comprehensive; in former years no inducements were offered to physicians, and therefore a "P. G." was a *rara avis;* to-day the "P. G." is everywhere, and gleans the field earnestly, if not at times thoroughly, entirely satisfied with the grand opportunities offered to him.

The undergraduate of very recent times "attended lectures and passed examinations"; many brought lunch and cigarettes, and "spent the day"; his sole duties were to keep awake and look interested during the lectures, and to sit "down front," so that if he fizzled in the final examinations the professor would "push him through," because he was always "there in front." Many a man to-day holds a degree gained by ten months of such study and by seven closing examinations, for which the students were prepared by a few "general quizzes."

Though our schools have improved in every way, and though the curriculum seems to be "eminently satisfactory," there is no doubt that the medical school is in the same transitional stage that academic colleges were in not more than fifteen years ago. Then all college men entered by a narrow road, and followed the same course during the four years of study.

Gradually the horizon broadened, so that it was impossible to keep all students in the same road; gradually the opinion became prevalent that a liberal education meant a "liberal" education, congenial to a student's natural and acquired tendencies, especially since the tremendous growth of knowledge made this not only possible, but absolutely necessary from the standpoint of progression alone.

We appreciate the growth of the college curriculum when we realize that our larger colleges offer hundreds of courses of study, while even the smallest college no longer molds her students after a stereotyped pattern. An appreciation of the length, breadth, and thickness of a liberal education so fills our educators of to-day that they believe a man may merit a degree and still know little of Greek, mathematics, and philosophy; that he may win his degree by knowing a few studies well rather than by knowing all studies superficially; the progressive college of to-day strikes deep to the root—

the college of yesterday required its students to plow a broad field. To-day our great colleges present for undergraduate and post-graduate study such an array of professors and courses of study that involuntarily an old college man cries out, "Great Cicero's ghost, '*ubinam gentium sumus*'!"

As was the position of our colleges, so, I repeat, is to-day the position of our medical schools—we are in a transitional stage; we are advancing so fast that the plans of to-day are buried in the still broader plans of to-morrow, until no one can see the end.

Recently a medical school was in labor only ten months when she easily gave birth to a full-fledged M. D.; yesterday it required three years for satisfactory development; to-day it requires four years, with a preliminary or even a collegiate education as a foundation.

Yesterday we thought everything was "fixed all right" for years to come, but we find the growth of medicine a little too "warm" for us; yesterday we really thought our students could all go through on the same forced diet, but to-day we see other studies so "meaty" placed in the curriculum of this school that we are obliged to insert them in "our course," so that the last catalogue sent out "*in magnitudine laborat*" to such an extent that a young aspirant for a medical degree is almost worthy of the title if he can appreciate just what this long course embraces—it begins with alpha and ends with omega.

I present here this course of study; certainly it is sufficient to paralyze all but the bravest of embryo physicians:

Anatomy.—Lectures, recitations, and dissection.

Chemistry.—General, organic, and physiological; lectures, recitations, laboratory work; qualitative and quantitative analysis.

Physiology.—Recitations, lectures, and demonstrations.

Therapeutics.—Recitations, lectures, and clinical practice.

Practice.—Recitations, lectures, and clinics.

Surgery.—Recitations, lectures, and clinics.

Obstetrics.—Recitations, lectures, and clinics; manikin practice and six confinements.

Pathology.—Recitations, autopsies, and laboratory.

Bacteriology.—Lectures and laboratory work.

Pœdiatrics.—Lectures and clinics.

Physical Diagnosis.—Special drill.

Toxicology.—Lectures and laboratory.

Dermatology.—Clinics and lectures.

Operative Surgery and Bandaging. — Required course.

Histology.—Recitations, lectures, and laboratory.

Embryology.—Laboratory work and lectures.

Materia Medica.—Recitations, lectures, and laboratory.

Pharmacy.—Laboratory work.

Clinical Chemistry.—Laboratory.

Topographical and Surgical Anatomy.—Lectures and demonstrations.

Electricity.—Lectures (practical).

Insanity.—Lectures.

Clinical Microscopy.—Laboratory.

Clinics.—At the school and at twenty hospitals which the faculty visit.

Medical Jurisprudence.—Special lectures.

Hygiene and Public Sanitation.—Special course.

Orthopœdic Surgery.—Lectures and clinics.

Ophthalmology.—Lectures and clinics.

Photography and Photomicrography.—Practical explanations.

Otology.—Lectures and clinics.

Diseases of Nose, Throat, and Larynx.—Lectures and clinics; use of the various instruments taught.

Gynæcology.—Clinics, lectures, and recitations.

Botany.—Special course given.

Quizzes.—By some member of the faculty—attendance is compulsory.

Physics. — As much as is contained in Ganot's *Physics.*

Genito-urinary Diseases.—Lectures and clinics.

Neurology.—Lectures and clinics.

Clinics.—Held at ten hospitals.

All this course of study is required—there are no optionals.

Such a course of study is enough to stagger any student, however zealous. Is it possible that medical students are expected to go through such a curriculum? Yes, and they are required to "pass examinations of a length to be determined by each professor, and to be judged directly by him, upon the subjects covered by the instruction of the year." This curriculum is thorough indeed, and would develop students into fine physicians if each instructor could thoroughly understand the exact position and importance of his subject among the many which medical students are compelled to study; but there is no one to dictate or to direct. Each instructor puts on his own glasses and sees a broad medical education resting on *his* special study as a great foundation stone.

This professor of anatomy burns the midnight oil in order that he may memorize his "fine points"; this professor makes "dislocations and fractures" his hobby to such an extent that his lectures always conclude with his pet hobby, though they may begin with muscles, nerves, or arteries; this anatomist believes medicine rests on "relations and branches," and lectures accordingly; this instructor is a busy practitioner, so he describes minute anatomical points with the aid of notes, which he frequently consults. Though he has not head enough to hold what he has prepared, as is proved by the fact that he has caught the overflow from his brain in his notes, yet he expects his students to master and to hold it all.

The student works faithfully, though he staggers under his load, and carries to the examination room such a mass of unimportant "fine points" that he wonders, in his mature years, why this professor was ever allowed to be such an absolute despot in his special field.

The professor of chemistry here is the most influential man on the faculty—popular, zealous, and studious. He makes an ideal man for his position, except for one fault—through his chemical glasses he sees the onward march of medicine, and gloats with pride as he realizes that the whole science of medicine rests on chemistry as its grand foundation. So the students of that school are given a daily chemical bath.

How pleased he is as he sees the students marching into his laboratory! How earnestly he describes and demonstrates and elucidates! Reactions and reagents, general formulæ and special equations, qualitative and quantitative tests are mixed as in a mortar in the student's brain until they form the great foundation stone. So the professor thinks; but the student, now a busy practitioner, wonders why he was obliged against his will to spend so many weary hours along a road which has been filled with rank weeds from the day of his graduation.

The professor of physiology "does nothing else and knows nothing else," yet he requires you to follow him closely as he drags you along his advanced road in his zeal to make his investigations and demonstrations "clear."

The professor of therapeutics was selected because "there was a vacancy" and he wanted to go up from a "lower chair," as did the ambitious Romans in their yearning for the curule chair; so his students are given therapeutical baths prepared from standard text-books. Possibly he may know nothing of therapeutics, but everything about materia medica; so he, to cover his therapeutical ignorance, absolutely drowns his students in tinctures and extracts, with a few "therapeutical points" thrown into the liquid mass—"points from experience," he calls them, when his fellow-practitioners know he has gained from his practice therapeutical discrimination of little value to any one, even though he is a great believer in "intestinal antisepsis," and so treats every patient. In practice and in surgery he is stimulated by men of great reputation and skill, who lead their students along the broad road of their special subjects, and not along the narrow path trod by an illiberal *ipse dixit*.

The pathologist realizes that all advances are made through the microscope, and therefore *he* tries to give a "satisfactory" course. He certainly succeeds, for he exerts himself to teach, as well as to require, all that he has himself mastered by long study. His students linger long in the laboratory, earnestly trying to store away knowledge so that it can be used in practice. The cobwebs of time, however, grow all over their laboratory training—cobwebs which the general practitioner rarely needs to brush aside.

His knowledge of bacteriology, which has produced so many volumes and "discovered" so many useless facts, he is willing to return to those who are still making "new discoveries." Aside from testing for the tubercle bacilli, he finds bacteriology of no practical value to him; though he is willing to acknowledge Betsy Billings may have the *Plasmodium malariæ* in her red corpuscles, he knows she has the "shakes," and at present that symptom satisfies him better than a hunt for the still unsatisfactory germ, which has had fourteen years to show itself and still sneaks around among the red corpuscles.

He swallows his small dose of ophthalmology, and proudly tells a fellow-practitioner that he saw the "corpus luteum" the "first time he used the 'scope." Poor fellow! His friend did not dare tell him he meant the "macula lutea," and that the corpus luteum had not as yet been observed in the eye.

His laboratory work and special study in botany, physics, chemistry, embryology, and minute anatomy of the nervous system take him away from a thorough study of pædiatrics and dermatology and neurology and gynæcology, and other useful ologies.

Each assistant in every branch, ambitious for himself as well as for his special department, clutches after the poor fellow as he rushes hither and thither, and he is dipped and sometimes drowned in physical diagnosis, toxicology, surgical anatomy, and genito-urinary diseases, and—other diseases, until he gasps and chokes with the persistent yet well-meant zeal of his many professors, assistant professors, instructors, and quiz masters. When he feels he is carrying as big a load as he can, then he is overwhelmed and paralyzed with medical jurisprudence, hygiene, and public sanitation, with orthopædic surgery and otology. He tries to look "bright," though he feels as dumpish and as much overfed as a stuffed goose. Some few manage to digest fairly well what is forced upon them, but the average man retains the excess long enough to appear satisfactorily stuffed before the eagle eye of the professor, when he at once has a "free movement," which, by chemical analysis, shows much "undigested material." He realizes he would feel better if he ate less and digested more, but his zealous instructors continue to stuff their wearily plodding victims. Patiently he bears it all, and struggles through his course, feeling there *is* a mistake *somewhere*, yet not knowing where.

He settles down in Verplanck's or in Cobleskill and begins work; he finds he repeatedly consults his works on anatomy, practice, surgery, therapeutics, gynæcology, and obstetrics, and often his works on diseases of the eye, ear, nose, throat, nerves, and skin, with regret that his practical knowledge is so superficial; the dust of time meanwhile settles on his other books, which he buys but does not read to "keep up with the times";

he yearns for post-graduate study, and wonders why his medical school did not fit him better for active practice, instead of making him memorize such a mass of useless truck.

Through his more mature eyes, his professor of anatomy dwindles away to an interrogation point of "relations," while his admired professor of therapeutics now appears to be a weak old man urging upon his hearers the great value of "intestinal antisepsis." How the horizon broadens with time, and how narrow appear those professors who looked at the great world of medicine only through their myopic glasses!

Years of rubbing up against the world of practice teach him that in medicine, as in many other things, what is "one man's meat is another man's poison." He realizes to-day that the undergraduate studies of a zealous student with a hospital appointment and a course in Europe ahead of him are not the best studies for Dr. Jones, who must practice at once in China or in Kalamazoo; he now sees with opened eyes how narrow must be the minds of the professors of the secondary studies when they force their students to give these studies the same time that is devoted to the primary studies.

How he criticises the chemist who drags his shivering students deep down into the unknown depths of a chemical Hades; how he respects this great New York chemist who realizes exactly the relation of chemistry to general medicine, and gives his students an interesting course, broad enough to take its proper place in the foundation of medicine, yet not so broad as to squeeze out other foundation stones; how he admires this anatomist who has given him the essentials of anatomy to learn, the non-essentials to read, and how amused he is now at the true picture of this anatomist who required his students to carry in their stuffed heads what he carried in a stuffed notebook!

Of what value to know the smaller branches of the smaller arteries? Of what inestimable value to know practically and thoroughly the anatomy of the neck, axilla, and inguinal region! Yet the new graduate, like a poll parrot, will give you from memory many "fine points" though he does not know the essentials of anatomy well enough to operate with confidence on a strangulated hernia.

How much better to forget the "fine points" acquired by mere memorizing, and know the real points gained by practical study and dissection! Anatomy should never be memorized in the privacy of the study—it should be known by repeated dissections and by long study over carefully preserved dissections. How can I study satisfactorily the muscles in a consumptive cadaver with a leg of the size of a broomstick? Yet by lot this is my part, and "I must do the best I can." How much better to first study a carefully preserved specimen of a beautifully dissected leg or arm, showing the strong muscles and fine vessels; how infinitely better to master this before dissecting the part assigned! Every student should have free access to these dissections, which could be replenished by giving examination credit to any student contributing a needed dissection. In this way the supply would always be equal to the demand, and the ever-absent demonstrator would not be missed, or his at times unsatisfactory assistance so often sought, since the model dissections would serve as a guide as well as a stimulus to careful dissection.

Again, how distressingly disagreeable is the memory of "didactic" lectures, especially to the intelligent student who can digest more from an hour's reading than from two hours of didactic discourse; yet not many years ago professors insisted upon regular attendance, though the student had in his hand a printed copy of the stereotyped lectures which had grown hoary with age.

Advanced medical schools now realize that the intelligent student of to-day does not need sing-song lectures—to-day they enable a student to polish in his study what he learns in the school, and to practically *see* and *understand* what he formerly memorized in his study.

Though much time has been devoted to developing the curriculum, we realize to-day that this curriculum must undergo a radical change, especially since the present course shows a change in extent, not in differentiation. The schools of to-morrow will not only continue to extend, but they *must* begin to differentiate.

All students will enter by the same door of education, all will *not* be obliged to pass through the same halls. The ambitious undergraduate of wealth with ten years of study before him will linger long in the laboratory and seldom attend a clinic; the struggling fellow who has worked for years to reach his present position and must "make by force his merit known," must prepare himself for practice in the school—he will linger long in the clinics and shun the laboratory as he nears the end of his course, well knowing that practical work makes the practical physician.

To whip these men into line and drive them in the same course for four years is not according to reason; to make an embryo pathologist live in the same shell and go through the same course of development as an embryo general practitioner is ridiculous; to make a zealous young surgeon cover the same ground as an inquisitive "laboratoriologist" is equally absurd.

If Dr. Germ dislikes practice, but adores the laboratory, why make him glean in the same field as Dr. General, who smiles blandly at clinics, but shudders when the laboratory is in sight?

We must to-day, on looking over the course of study, confess that no brain can digest the entire bill of fare—since all the courses to the same length are compulsory, some of the courses must be slighted. You can not crowd two quarts into a quart pail.

We realize now we can not make every student swallow an exact amount of each course—he can not hold it; we realize the field is so broad to-day that a graded division of the course is necessary, graded possibly into these divisions:

1. Laboratory course, major and minor.
2. Practical course, major and minor.
3. Surgical course, major and minor.

Let the laboratory student not wishing to practice, select the major laboratory course with the minor practical and surgical, and graduate as doctor of experimental medicine, taking, if he so desires, a fifth year in major practical with minor surgical, to earn the right to practise with his second degree of doctor of practical medicine.

Let the zealous student who must begin practice at once, select the minor laboratory and surgical, with major practical, and secure his degree of doctor of practical medicine.

Let the ambitious surgeon take the minor laboratory and major practical and surgical, earning his practical degree in four years—his surgical degree in five.

Finally, an ambitious student with wealth and time could in six years earn the three degrees, while a graduate in one course could at any time graduate in a second course by one or two years of study.

In this way there is furnished a greater stimulus to progress, and each student could get *at* the roots of his chosen studies instead of digging *around* the roots of all the studies.

The doctor of experimental medicine would lead in investigating—he would study major chemistry, pathology, bacteriology, toxicology, embryology, materia medica, microscopy, sanitation, botany, photomicrography, physics, hygiene, and the other laboratory studies.

The doctor of medicine will take only the essentials of laboratory study and prepare himself for general practice; he will, like a young bird, eagerly swallow anything of practical value that the experimental doctor has prepared for him, but, as an active practitioner, he will not be offered, for he will refuse to take, any dose in the experimental stage—such, for instance, as "yellow-fever bacteriology," or the "bacteriology of the eye"—in neither, up to date, is there any nourishing food for the practitioner.

So separate will these two fields be that the experimental physician will have his own environment and his own journals, and he will not trespass in the forbidden journals of the practitioner unless he has something to say.

So, likewise, in our text-books of practical medicine, authors will not feel they must "put it all in"—they will be obliged "to put it all out," except that which is of direct and known value.

So the next system on eye diseases will omit all discussions on "micro-organisms of the conjunctiva," unless the author can give the practitioner something of value, as the writer does not in the "germ" article in the second volume of the last "eye system" published; here fifty pages are filled with a description of "germs"—from the simple *Bacillus lepræ* to the *Diplococcus lanceolatus pneumoniæ.*

Such information, consuming fifty pages of valuable space and producing nothing but a waste of the practitioner's time, should never have been allowed to escape undressed from the laboratory. It should have been continually cultivated there until some fact of value to the practitioner was found; then let it be presented, dressed and finished, without useless and prolonged details. Details should be found on file in the laboratory, or printed in the laboratory journals.

The "doctor of surgery" would be a doctor of medicine, with surgery as his specialty. He would take from the experimental physician everything of real value to him in his own sphere, and he would stand as the faithful coworker and counselor of the practical physician, even on a higher plain than he does to-day.

Thus, from the very entrance of the student into the medical school, there would be three roads open and all uniting in certain lines, but ending in different roads.

Every study would have a maximum and a minimum, and thus offer, in addition to a thorough course in each department, a stimulus and an encouragement to the special tendencies of each student.

From our doctors of experimental medicine would arise the great leaders in laboratory studies—the skilled medical chemist, the restlessly seeking bacteriologist, and the zealous pathologist.

From our doctors of practical medicine would develop the great medical practitioners of the future, as well as the specialist in diseases of the lung, nose, and throat, eye and ear, and other specialties. From our doctor of surgery time and study would develop the great future leaders in general surgery, as well as the specialist in intestinal surgery, brain surgery, gynæcology, and "external" surgery.

Though the years of undergraduate study must necessarily be lengthened to five and in time to six years, the comprehensive and differentiated courses of study would so develop our medical men along special lines that we should soon lead the world in medical progress and in medical men.

Then throw wide open the doors, or, better still, remove the narrow doors, and let progressive education enter fully, amid broadly liberal surroundings. Let us realize that the restless yearning of mankind for truth requires nothing but a magnificent freedom for a ripe development. Let us confess we have been eating green fruit along a narrow road, and then let us get out in the open fields, where there is more room for the sun to ripen the fruit of mental exertions.

I repeat, give Education, the queen of the world, room; surround her with an infinity of space for development, and let her march forward in her triumphant career. Then we shall no longer try to crowd the whole science of medicine into one small brain—for great leaders do not arise from a forced growth in a contracted environment. Let our colleges continue to broaden their courses of study and make the roads of entrance, passage, and exit delightfully and satisfactorily many, and then let us accept only college men for medical degrees.

Let the student, ambitous for his A. B., realize that an A. B. means liberal studies, and therefore do not allow him to deprive himself of the humanities by changing the liberalizing studies of his senior year for the first year's study in some professional school.

Though several prominent universities grant this privilege to their academic seniors, it must be looked upon as a step backward.

Certainly the A. B., the man of supposed liberal education, can never forget that he lost the cream of his college course in order to "save a year" which his more mature judgment decides to be a "lost year," in a life devoted to study. Truly, it is ridiculous to give a student his coveted A. B. when his senior year has been spent as a freshman in a medical school!

Finally, now that America is no longer solely the "land of the dollar," let us recognize ability by robbing environment of its potent charm; let us recognize and advance genius wherever it may be found.

Now that medical schools have ceased to be "family affairs" and "private monopolies," ruled by an absolute czar, let us, I repeat, throw wide open the doors and invite ability to enter as a king, even though its possessor may be clothed in rags.

Velpeau, poor and almost starving, entered the medical school at Paris with wooden shoes and a pale face of intense earnestness. Derided and avoided by his more fortunate fellow students, he bravely continued his course amid distressing surroundings, until his faithfulness and his brilliancy turned his beggarly plodding into a march of kingly triumph—into a career so noble and inspiring that to-day his name stands as one of the great beacon lights in the medical world.

Let us profit by the life-history of many of these beacon lights, and let us remove all obstacles from the onward march of ability.

It is difficult to eliminate this wonderful influence of environment from the struggle for medical honors; its possession has made many an ordinary man "well known," the lack of it has buried many a genius in poverty and in oblivion.

To-day our medical schools need brilliant instruction from devoted students, gifted with special talent in special fields. Our schools do *not* need "satisfactory" instruction from plodding men, possessing no claim for honored recognition save social environment; our schools are distressingly full of such men.

Our schools do not need the sons of gifted men, unless they inherit more than a mere name.

I know well that Professor Common fills his chair acceptably; to be sure, his colleagues think he is a "fine fellow," and all acknowledge he is beloved by his students, yet no one realizes that the college, if not the world, has lost a brilliant anatomist and surgeon because his competitor did not possess that mystic influence which usually decides "long before" who shall secure, not *win*, the coveted positions of honor.

Though environment decides position in the world of society, we should in indignation drive its influence away from the college world, which should adopt Agricola's motto, who replied to those seeking positions through environment and "friends," "Puto quemque fidelissimum optimum."

Let sturdy ambition, in rags or in finespun, be surrounded by a free infinity of equal opportunity to make its merit known by force. Good-by, then, a final good-by, to the school of yesterday—good-by to the old *régime* and the old narrow road. Many a brain have you befogged and wearied by your methods of unceasing poll-parrot memorizing; many a zealous brain have you stunted by your artificial stuffing.

Old curriculum: A hearty hail, and a still more hearty farewell. Even as I write jealous Progress buries you in a long-remembered past.

Good-by, narrow, well-trod road; many a progressive brain have you dwarfed in your narrow environment as you forced tendencies and aspirations into a stereotyped mold. Hail! broadly liberal field of medical progress; often have we hungered and thirsted for thee in vain. Hail! fair goddess of liberal progress; hail and welcome, thrice welcome!

2068 Fifth Avenue.

THE CLIMATIC INFLUENCE OF OUR SOUTHWESTERN STATES ON DISEASES OF THE RESPIRATORY TRACT.*

By W. FREUDENTHAL, M. D.

As laryngologists, it frequently becomes our duty to treat tubercular affections of the larynx in patients with pulmonary tuberculosis, and in such cases the question naturally arises whether we do right in treating the laryngeal and leaving the treatment of the pulmonary tuberculosis to some other practitioner. If we consider it necessary to institute constitutional treatment in cases of syphilitic laryngitis or pharyngitis, is it not much more our duty to see to the proper constitutional treatment in cases of tubercular affections of the upper respiratory organs? But I fear that in our specialty it is as in others—the extraordinary results obtained by local operations and applications often make us forget constitutional measures. A very important part of general measures to be administered in laryngeal as well as in pulmonary tuberculosis is the climatic treatment. "If we consider," however, "how great a sacrifice of time, money, inclination, and affection is involved when an invalid, under direction of a physician, leaves his home and journeys into another and perhaps a far country, we marvel at the small amount of thought and study that is bestowed by the majority of physicians upon the science of medical climatology, for without a fair knowledge and appreciation of this no rational selection of climate can be made." (Solly, in his *Handbook of Medical Climatology.*)

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* Read before the Section in Laryngology and Rhinology of the New York Academy of Medicine, November 24, 1897.

If I lead your thoughts three thousand miles away I hope you will pardon me for taking you to such a wild country as is our "New Southwest." Probably but few of my hearers know these parts of the Union from personal observation. I shall therefore try to give you my own experience, as well as the opinions of some resident colleagues and local authorities. My experience was gathered not only from a two-months' trip last summer, but from personal communication with some of my nearest relatives who have lived there for over a quarter of a century.

If you tell a patient to go to New Mexico or Arizona, it will strike him in the same manner as though you should advise a business man to go to the Klondike. But things have changed in the Southwest. New Mexico and Arizona of to-day are not what they were twenty or twenty-five years ago. They, too, have succumbed to the progress of civilization, and offer a great many modern improvements, without which the so-called civilized man does not believe he can live.

In describing these places I shall limit myself to New Mexico and Arizona and some parts of the neighboring States which I have had the opportunity to see for myself. If I were to speak first of the physiological effects of high altitudes, I should say that they had not as yet been thoroughly investigated, and it would lead too far to discuss their effects on the skin, heart, blood-vessels, etc. In general I should say that the effect was a stimulating one upon most functions of the body, and that this showed itself in all diseases, including those of the upper and lower respiratory tract. Therapeutically, therefore, this effect is of an invigorating character, but there is requisite a certain power of resistance on the part of the patient to produce the best results. If this is true of most mountain climates, it is especially so regarding the Rocky Mountains. A patient without any vitality or energy would be lost were he to be transplanted from his comfortable New York residence to an adobe house in New Mexico. If he has not the power nor energy to rough it, even to a small degree, he will shut himself up in a small, uncomfortable room of a hotel or poor boarding house—good boarding houses are rare—and will perish much quicker than if he had remained in the East. In order to get well he must give up his city habits and simply take to Nature. Houses there should be considered only as shelter against the sun; otherwise he ought to sleep, dine, and live in the open air. Under such conditions we can expect many more recoveries than we have now.

The most important disease which we wish to combat by climatic treatment is pulmonary tuberculosis. Various theories have been advanced to show how the cure of tuberculous lesions takes place in great altitudes. In all these cases, however different they may be, the lungs, and often the larynx, show either superficially inflamed or irritated, or even suppurated surfaces, or we find abscesses or similar conditions leading to purulent or septic infection. Now, it is my firm belief that the air in certain parts of these mountains is not only aseptic, but, what is needed far more for an infected wound, antiseptic. This condition of the air can, of course, only be found outside of cities, or even villages. When cattle die there, they may and do lie on the same spot in the prairies without ever producing any odor. Decomposition, therefore, does not occur.

The more air that is brought in contact with the lungs the better for the patient; for not only does a drying process take place by the increased ventilation of the lungs, but healing is also made possible by bringing the wounds in free contact with an antiseptic atmosphere. The same can be said of the larynx. That the dryness of the air has something to do with this process I do not doubt, but the beneficial action of the dryness of the atmosphere is entirely overestimated. This is analogous to the manner in which the French recommend their seaside resorts on account of their having a mean temperature one degree, or even half a degree, higher than some similar resort. Since Laennec recommended the seashore in preference to the mountains, it seems as though the French school had followed in his footsteps. Speaking of the maritime resorts of France, Dr. Lalesque * says:

"*Une erreur tant médicale que populaire, et fort accréditée, veut que la puissance préservatrice d'un climat soit en raison directe de l'élévation du thermomètre. Que de malades calculent uniquement, d'après la hauteur thermométrique, l'abri salutaire qu'ils trouveront dans une station! Et les stations entre elles, quels excès de zèle n'ont-elles pas déployés pour démontrer que leur moyenne thermique dépasse d'un degré, d'un demi-degré même, la température de la station rivale! Tout cela est puéril et faux.*"

On this side of the ocean we hear the same extravagant claims made in regard to the dryness of the atmosphere of certain districts. One tries to outdo the other, and thus, on coming to a place, it is very common to have the absence of humidity commented upon and extolled to the skies. In a pamphlet on New Mexico one reads about Albuquerque: "The winters are generally open and bright, and the atmosphere almost

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* F. Lalesque. *Cure marine de la phtisie pulmonaire*, Paris, 1897, p. 103.

wholly devoid of humidity." This nonsense is apparently written by a physician.

It is just as little the difference of a small per cent. of relative humidity that makes a place preferable as the difference of a degree or two in temperature. The principal thing in the one case is the stability of the temperature, in the other the stability of the humidity.

But it is unquestionable that we in America are afraid of humidity. Thus Solly, in his text-book, says: " . . . humidity is more important by far than any other single factor." In this respect there seems to be a consensus of opinion among American writers that sea air is, as a rule, injurious for people with pulmonary tuberculosis. I need only mention names like those of Bowditch, Curtin, Knight, of Boston, Shattuck, Boardman Reed, and especially Solly, who have expressed themselves in this manner.

I can not share the views of these gentlemen. On the contrary, I believe that for certain forms of phthisis sea air is preferable, especially for those forms connected with atrophic or dry conditions in the upper respiratory tract. I have treated several patients who lived in Germany and who, on the advice of their physicians, crossed the ocean again and again on sailing vessels. As soon as they reached New York they came under my care. Three of these five patients are cured, the other two are dead. And after having observed those and other similar cases, I have finally come to the conclusion that fog generally has a bad effect, while high saturation of the atmosphere *without* fog is often pleasant to such people, especially those suffering from pharyngitis and rhinitis sicca.

I agree perfectly with Senator, who at the last International Medical Congress at Moscow spoke in favor of floating sanatoria. For certain forms of tuberculosis they will surely prove very beneficial. Further, others at Moscow were not so very enthusiastic over mountain climate. Thus, von Ziemssen said that the better hygienic conditions of the mountains consisted in their lack of germs and dust, their diminished air pressure, and their greater amount of ozone; furthermore, there were less wind and draught and greater power of the sun. But even von Ziemssen doubts whether all these qualities are really of great benefit. Von Leyden attributes the only benefit of great altitudes to their hardening the system, while Gerhardt goes so far as to say that in the climatic treatment of tuberculosis only pure air is essential, and neither altitude nor the sea. I do not go so far as this last great scientist, as I have repeatedly seen patients who could not stand sea air improving in the Rocky Mountains. Whether this was due to a neurotic element, or whether it was the bracing air of the mountains that made these patients feel better, I can not say. I am inclined to consider both points as important.

There is a condition of pathological irritability called erethism which is not uncommonly found among our tuberculous patients. Although G. Sée remarks that we need not consider the phantastic doctrines of those who divide phthisical patients into torpid and erethistic cases, driving the former to the poles and the latter to the equator, we must nevertheless say that there does exist, especially in the United States, such a condition as erethism; and, furthermore, these patients do frequently improve in the mountains, while the air at the seashore disagrees with them. In this respect the Rocky Mountains have the same effect as other mountains. Still there is a great difference. In most parts of the Rockies one can live outdoors and sleep in tents during the whole year, which can not well be done in the mountains of the East, such as the Adirondacks or Catskills. This is a great factor for many consumptives.

Let me add that the air in some parts of the Rockies was exceptionally bracing to me, and what is of greater value is the fact that one can select almost any temperature or any altitude which may be desirable. In Arizona, especially, is there a wider diversity of climate than anywhere else. With the elevation there goes hand in hand the difference in temperature. From Phœnix, where I encountered 110° F., I reached in a few hours' ride Ashfork, where the temperature was about 80° F., and in a few hours more Flagstaff, where it was at noontime about 84° F.

The conditions of climate have to be considered still more carefully for tuberculous patients with laryngeal affections. In windy weather, especially rough easterly or northerly winds, which prevail in our climate during winter, patients with tuberculous laryngitis should not be allowed to remain outdoors except in special cases and in protected spots. A winter in the Rocky Mountains might sometimes prove of greater benefit to such people than the treatment of the most skillful laryngologist in this climate. I can not understand how experienced men can send, as they do, patients to a place like Davos, in Switzerland, for the winter. At Davos the temperature during the winter months, and especially in January, seldom rises above the freezing point. In the sun it is naturally higher. True, the patients can be on the porch and "enjoy" the "*Liegekur*" sometimes for ten hours a day, but why should we look for a climate with, I am tempted to say, artificial heat, when we have the sunniest and most pleasantly warm climate in our own country? They maintain that at Davos the patient can at least have social enjoyment. There are societies, entertainments, cafés, etc., but all these things are only a contraindication to such places. The less "society" in a health resort the better for the patients. For Germany or Austria or Russia Davos is excellent, as it is much warmer than many of the other resorts; but it would be foolish for any one residing in this country to travel so great a distance to a cold climate, when in a few days he can reach a beautifully mild climate, with almost eternal sunshine.

Still, I must say that such patients, when they have great dysphagia, deep ulcerations, or granulations, ought to have some treatment for these troubles, and as soon as the dysphagia is improved enough to enable them to take food a sojourn in the mountains will be of more benefit to them. There are but few authors who have written on this special subject, and Blumenfeld,* of Wiesbaden, confines himself to saying that, "according to the commonly accepted view," great altitudes are not good for people with laryngeal tuberculosis. Among others, Egger,† in a recent article, also considers great altitudes a contraindication for advanced tubercular laryngitis.

Quite in contrast to this are the opinions of Robert Levy, who has had a large experience at Denver, and of Solly, who has resided for a great many years at Colorado Springs and who also has an extensive experience in such cases. The latter tabulated two hundred and fifty cases of pulmonary and laryngeal tuberculosis, and found that rather more than two in every three improved. In forty-five of those who had laryngeal disease half the number improved; of twenty-five cases in which there was tuberculous infiltration of the larynx without ulceration, improvement was noted in over two thirds of the number, "while of the twenty in whom there was laryngeal tuberculous ulceration, only one in four improved; but of the two hundred and five cases without laryngeal disease there was improvement in nearly three out of every four cases, the exact reverse of the laryngeal ulcerated cases." These results are not so wonderful, and they only go to show that laryngeal involvement is a complication of pulmonary tuberculosis which, as Solly correctly says, forms "a double disease, and, therefore, a double burden to bear."

But it can not be denied that in great altitudes laryngeal tuberculosis shows the same prognosis as in low ones—viz., under proper treatment these cases can be improved or even cured. Robert Levy ‡ expresses himself similarly, believing that, just as pulmonary tuberculosis can be improved or cured by climatic treatment in great altitudes, so tuberculous affections of the larynx can be influenced. Naturally, wherever proper treatment for the larynx can be obtained, it should be instituted by all means.

Of the many patients that I have sent away from New York it so happened that I saw but seven in the Rocky Mountains. One of them, a woman, never consulted a physician after leaving me—*i. e.*, about a year and a half ago. She lives in the Mesilla Valley, near Las Cruces, N. M., and is perfectly cured. Another one, a physician of this city, is also perfectly cured as regards his larynx, and thinks of returning to New York. I did not examine his lungs for obvious reasons. One woman died in New Mexico of pulmonary tuberculosis with, according to the attending physician, "a perfect cure of the laryngeal affection. She did not complain of her throat for over three months previous to her death, and had quite a clear voice." The four others did not improve, but grew worse.

This number of cases is so small that it hardly bears any weight, but I feel like mentioning them here briefly, as I think we should collect as many statistics on laryngeal tuberculosis as possible; for, in my opinion, it has never been shown that great altitudes have a bad effect on patients with laryngeal tuberculosis, provided the patient is not exposed to either very high winds or abrupt changes of temperature or humidity. Some persons with laryngeal phthisis improve *pari passu* with the improvement in the general condition, while deeper and more serious lesions can receive the requisite local treatment in great altitudes as well as elsewhere. Of course, patients afflicted with severe dysphagia will decline in the mountains, as they do in any altitude, and hence are much better off in their homes or in a well-regulated sanitarium.

Another great factor in the cure of laryngeal affections is rest of the diseased organs. We know how rare it is for tuberculous lesions of the larynx to heal in those who persist in speaking, and also how exceptional it is to find a patient who will implicitly obey the admonition to refrain entirely from speaking for several months. Even in sanatoria they will ask their fellow patients—if nothing else—about their condition, temperature, night sweats, etc., several times daily. Most of the Southwestern States are very thinly settled, hence, since the patient meets few people, the injunction not to talk can easily be obeyed. Thus the irritating cough from the throat diminishes or ceases entirely, and the chances of recovery are thereby improved.

In all these cases we must watch and treat the nose and nasopharynx, as I advocated some time ago. I am glad to see that Blumenthal (*loc. cit.*, page 88) and others agree with me on this point.

I will not touch upon other affections of the respiratory organs, such as bronchitis, asthma, etc., and will only cite here two cases of empyema of the nasal passages. As they are so very similar, permit me to give you the history of one only:

Mrs. H. S., aged forty-seven years, consulted me a year ago, complaining of terrible headaches, obstruction of the right nostril, and an immense purulent discharge from the right side of the nose. I diagnosticated an empyema of the antrum of Highmore and advised opening it. But, as she "did not believe in operations," she consulted two other specialists who happened to give her the same advice; in spite of which she did nothing for her nose. Shortly afterward her husband moved to Arizona, and she immediately began to improve. She still has empyema of the antrum, but the discharge is less, and she is troubled very little. She is now a greater believer in her theory than ever. The other case, that of Mr. S. N., thirty-eight years of age, was very similar, only that he had an empyema of the frontal sinus in addition.

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* F. Blumenfeld. *Specielle Diätetik und Hygiene der Lungen- und Kehlkopfschwindsüchtigen*, Berlin, 1897.

† Privat-Docent F. Egger. Ueber die Indikationen für den Hochgebirgsaufenthalt Lungenkranker. Separatabdruck aus dem *Jahresbericht der Allgemeinen Poliklinik*, in Basel, 1897.

‡ *New York Medical Journal*, July 20, 1895.

When I saw the great improvement in these two cases I wondered whether fifty years hence we should operate as much as we did to-day, even though it seems to us perfectly rational to open such a cavity; I wondered whether in fifty years, when the star of a Virchow should no longer shine so brightly on our medical horizon, we might not then return to the old humoral pathology. *Qui vivra verra.*

I should like here to explain my views in regard to the supposed immunity of certain places against tuberculosis, of which we formerly heard so much. Brehmer was the first to call attention to the subject, yet we know very well that he was in error; for, given favorable conditions, there is no place in which tuberculosis can not develop. With the increase in factories and workshops, together with the confinement in close quarters of large numbers of people, tuberculosis sets in without fail, whether this be in Davos, Goerbersdorf, or Denver. As a striking example, permit me to mention Chaux-de-Fonds, a small place in Switzerland, where tuberculosis is responsible for as many deaths in a thousand as it is in Berlin. Yet, Chaux-de-Fonds is situated three thousand feet above the sea, in the midst of extremely healthy surroundings, in the Jura Mountains. The prevalence of tuberculosis here is due to the watch factories, for which it is celebrated.

I have not cited these two cases of empyema to prove that Arizona possesses immunity against such disease, but I do think that the air proved to be antiseptic in them, as it is in cases of pulmonary suppuration. On the other hand, I have seen diseases of the respiratory tract develop in the Southwest itself. "You see," said an editor of a newspaper to me, "it is no wonder that I have such catarrh, when I have to live in such a terribly dry climate." You will notice that in the same manner New Yorkers blame the excessive humidity for exactly the same ailment. The fact is that this man acquired his postnasal catarrh by being confined indoors all day long; in the same manner he could acquire tuberculosis; and I have seen cases of tuberculosis, bronchitis, and asthma among the natives; yet it is true that they are extremely rare, and also that the patients stand a better chance of recovery than they do in the East.

(*To be concluded.*)

The New York County Medical Association.—At a stated meeting held on Monday evening, the 21st inst., Dr. A. Ernest Gallant was to deliver a lecture entitled A Trip to Denver and the Rockies with the American Medical Association, which was to be illustrated by seventy-five stereopticon views, and Dr. Parker Syms was to present a patient and exhibit specimens of cystic goître.

A CURIOUS CONDITION OF THE APPENDIX VERMIFORMIS, AS FOUND AT OPERATION.*

By E. D. FERGUSON, M. D.,
TROY, N. Y.

The questions connected with appendicitis have been so frequently and extensively discussed during recent years that as a subject it may be considered somewhat threadbare; but the practical elements involved in our clinical work have been marked by such divergent views and statements that it is fair to assume that the last word entitled to respectful consideration has not been spoken.

The specimen which I shall present, and which is unique so far as my experience extends, will serve as an excuse for a few practical considerations relative to the problem as to when we should operate. I will first relate the case and present the specimen, in connection with one that is its complement at the other extreme of the special pathological process which it illustrates, the latter case having come under observation since giving the title for this paper to the committee of arrangements.

The following note from the attending physician, Dr. W. J. Hunt, of Glens Falls, N. Y., gives the outline of the previous history so far as it bears on our present purpose.

"R. E. A., aged thirty-two years. Occupation, telegraph operator; previous history good. Had his first attack of appendicitis in March, 1893. An abscess developed and opened into the bowel. Had a slight attack in November, 1893, and recovered promptly. In December, 1896, began to have pain; he was in bed and up and around at intervals until January 23, 1897, when I first saw him. At that time there was a large mass in the region of the appendix; he had a high fever and much pain. He was given opium and strychnine. An ice bag was kept constantly applied until all acute symptoms subsided, and he was fed on albumen water and kept quiet in bed until February 3, 1897, when the appendix was removed. He developed a broncho-pneumonia the third day after operation. An abscess developed five or six days after the operation. This was opened, washed out, and kept packed with iodoform gauze. Otherwise recovery was uneventful. He returned to work May 1st, and has done the hardest summer's work of his life."

The attack in 1893 was represented as protracted, having been accompanied by high fever, chills, a tumor in the appendicular region, which gave the usual evidence of suppuration, and it seemed there were ample grounds to conclude that the abscess emptied into the bowel.

At the time of the operation the last attack had so far subsided that the procedure might properly be termed an intermediate operation.

On opening the abdomen the bowels were not so intimately adherent to the parietal peritonæum as to materially complicate the operation, but the mass felt before making the incision was found to consist of the cæcum, lower portion of the colon, small intestines, and omentum welded into a common mass by ancient adhesions. A careful and consequently somewhat tedious hunt was then instituted for the appendix. Beginning at the colon, where the longitudinal bands could be recognized, the adhesions were separated downward until the cæcum was found, but nowhere in the region where the appendix should be located could any trace of that organ be found. Knowing the erratic location of the organ in some instances, a systematic search was begun, thinking that possibly it might have become atrophied into a mere band, as in a puzzling case on a former occasion.

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* Read before the New York State Medical Association at its fourteenth annual meeting, October 12, 1897.

During the procedure attention was attracted to a mass about the size of the last phalanx of my thumb, situated near the iliac muscle and between two coils of the small intestine and the colon, though apparently more intimately connected with the small intestine than with the colon.

At first the mass seemed like a large exudate of lymph, but on partial separation its nature was discovered, it being the distal portion of the appendix which had been separated by a circular amputation from gangrene.

Attention was then given to the normal site of the appendix, and it was found that a probe could be passed into the cæcum at that point, showing that in some way a channel had been maintained for the conduction of the secretion of this apparently functionally active stump into the bowel.

The distance from the open end of the stump to the opening into the bowel was slightly greater than two inches.

The appendix was peeled from its bed by the fingers, and no sign of a mesentery was seen, though it is probable that some small portion of mesentery remained to furnish nutritive supplies, rather than to suppose that adhesions had served for its nutrition.

No evidence of pus or recent inflammatory exudate was seen, hence the opening into the cæcum was infolded and closed, and the abdomen closed without drainage. It is probable that the post-operation abscess was due to some septic material in the operative field, though it seemed to be limited to the incision in the walls rather than to have proceeded from the intraperitoneal parts.

The specimen is a fair example of amputation by gangrene, and from the history the only conclusion that seems legitimate is that this amputation occurred in 1893, about four years prior to the removal of the stump. It is fair to assume that quite a portion of the appendix was destroyed by gangrene from the point of its attachment to the cæcum for an indeterminate distance. It is manifest that one can not assume a loss by gangrene of a portion just equal to the distance from the opening in the bowel to the stump. It may have been a greater distance, it was probably less, and the stump therefore was displaced to some extent by traction. The specimen showed that the process of healing was performed at some time remote from the time of operation, and the clinical history would justify the conclusion that the amputation occurred in 1893, and presumably the abscess then present emptied into the cæcum at the normal site of the implantation of the appendix, or that the point of opening of the abscess into the bowel was near that point, and was maintained as a channel for the escape of the secretion from what remained of the appendix.

Gangrene of the appendix with spontaneous separation is not a rare event, but the maintenance of the distal portion in an apparently normal functional condition is unique in my experience.

I will present in connection with this specimen a case at the other end of the process.

The case was that of a young man about nineteen years of age, a patient of Dr. John T. Cahill, of Hoosick Falls, N. Y., who was first seen by me on August 7, 1897. He was then in the first day of an attack of appendicitis, and gave a history of at least one mild attack before. The symptoms and signs appeared to justify an expectant plan of treatment, hence an operation was deferred. It was practically agreed that should he recover from that attack without suppuration the appendix would be removed promptly at any recurrent attack, and possibly at some elective time even should there be no recurrence, as the patient and family were loath to have such a volcano around.

On September 23, 1897, he again showed the symptoms of appendicitis, and though about thirty miles from me, I was able to reach him and begin the operation about six hours after the onset of the attack.

The appendix was free from adhesions, and, aside from the swollen and hyperæmic condition of the distal half and a small mass of yellow lymph, about the size of a grain of wheat, at the beginning of the swollen portion, there was no external pathological change. The peritoneal coat was stripped from a portion of the proximal and healthy portion of the appendix; it was amputated close to the bowel, after a purse stitch had been placed around the site of the base; the peritoneal cuff was inverted, the purse stitch drawn and tied, and that in turn buried with two or three Lembert stitches. There was a large mesentery to the appendix which was first "quilted" off by a cobbler's stitch, and the stump covered in by the Lembert stitches.

It has not been possible for me to preserve the specimen so as to show the appearance when it was opened, but you can see the line limiting the distal from the proximal portion. This distal portion was swollen to two or three times the diameter of the remaining parts; it was very much congested; its blood supply through its mesentery was large; the mucous coat was very much congested and swollen, being thrown into folds with deep sulci; there was very little secretion, and at the point separating the two portions there was a black line about a sixteenth of an inch in width, which in a direct circular course, and of practically uniform width, surrounded the lumen at that point. It was not practicable for me to settle whether this line of commencing gangrene was favored by thrombotic trouble in a special vessel at that point or was due to the pressure of a contiguous swollen and highly vascularized mucous coat.

The practical point was that there existed a condition favorable to a circular amputation by gangrene and the retention of a distal portion of the stump by reason of its ample vascular supply. Total gangrene of the appendix and gangrenous perforation need no consideration at our hands, but the circular gangrene, with maintenance of the integrity of the distal portion, and the survival of the patient for a term of years, is a combination that attracts attention.

It would add to the interest of the specimens if the exact appearance observed at the removal could have been preserved. In the one case the evidence of healing at a time remotely anterior to the operation would then be clear, while the early steps in the morbid process would be apparent in the other. In neither instance would microscopic sections be required to demonstrate disease, a means that seems to be required in some cases as a justification for the operation, a position that can hardly be defended on any sound surgical basis, and would hardly find advocates if operators were patients.

It is my wish to avoid anything like harsh criticism, but it has seemed to me that should many of the operators who now assume the position that, given the diagnosis of appendicitis, operation should follow at once as a surgical corollary, have the disease, each one would in all probability begin to weigh the elements of chances connected with the natural history of the affection, and at the same time give a certain importance to the risks connected with the operation.

Some striking sentences can be formed concerning the desirability of being rid of the appendix, and many special pleas can be made as to the relative safety of the operation, but the more radical of that kind of talk and writing has appeared to me without a proper foundation in theory or clinical experience.

It is not necessary for me to consider the grounds of justification for operation in cases where the disease is recurrent, where it is very protracted, or where an abscess exists—radical and conservative will come to a like conclusion in such cases.

It is in the primary attack, and in particular during the early stages of the disease, that the dictum to operate at once seems erroneous. The only basis on which an immediate operation in every case can be justified is the liability to perforation without protective adhesions, whereby diffuse septic peritonitis results. If the impression that has gone forth and become somewhat common on the part of the general public, that appendicitis is in itself a disease with a very high percentage of mortality, were true, then a basis for the early operation might exist, though the case would not be fully made out, but, with attention so forcibly directed to the malady during recent years, it is now becoming recognized that appendicitis is a very common disease. The fact that many of the cases classed as colic and indigestion in former times are now believed to be brief attacks of appendicitis does not help the argumentative side for the advocate of immediate operation, though it might add to the volume of the clinical material. The facts in the case now seem to warrant the conclusion that the mortality from appendicitis when left to pursue its course without surgical interference is very small, and in particular it is very small from that source which is used as an argument for immediate operation—to wit, diffuse septic peritonitis. If we are to protect all patients from that danger, it is our duty to operate in all cases, whether the symptoms be severe or mild, for clinical experience has demonstrated that no basis exists whereby we can foresee an impending perforation without protective adhesions. It is that fact which serves as the *point d'appui* for the arguments of those who advocate immediate operation, and from which they "play to the galleries," drawing Dantaesque pictures of the diabolism of the appendix and minimizing the risks of the operative procedure.

I wish to have it clearly understood that I am not calling in question the honesty of those who take the ground favoring immediate operation; my only claim is that their vision has become astigmatic, either through their own experience with cases of the disease, or through a failure to duly estimate all the available evidence.

Then, again, it is easy to become a partisan, and from some element of a cause that appeals to us to become blind to other, possibly even more important and different, conditions.

The fault that seems most common is, in my judgment, to minimize the risks of the operation, and in particular to base a conclusion on a certain individual experience.

In estimating the hazard to life from any operation, our conclusion should be based upon as broad a basis of reliable data as can be constructed. To that end, probably no more reliable statistics can be procured than the records of our hospitals, for here we have operators certainly possessing an average degree of skill, and operating under a fair average of favorable circumstances when both the patient and the environment are considered. It will hardly be claimed that the average mortality of "belly cases" in hospitals is less than ten per cent., and it is probable that the mortality of appendicular operations is fully up to the average of the general class of abdominal operations. Some recent statistics give even a higher rate than ten per cent.

The writer feels that he can press this view of the case from the fact that he can iterate the statement he made three years ago in a discussion of this subject at a meeting of the association—*i. e.*, that he has never lost a case of appendicitis after operation. Such an experience, however, has little value, for, on the other hand, he has never had a recovery where he has operated for obstruction of the bowels. Not having kept a record of the number of operations, I am unable to parade figures with the confidence so frequently manifested, and, though the number of cases is not so large as can be adduced by many operators, still I have operated a sufficient number of times during a term of years to feel that my experience has some value. If conclusions were to be based on my experience, I would say that operation for appendicitis was devoid of danger, and operation for obstruction of the bowels was uniformly fatal—conclusions manifestly at variance with the fact. The experience of Dudley in lithotomy would hardly serve as a rational basis for judging the value of litholapaxy at present. A broader view of the subject is demanded, though not always accorded when it becomes polemical.

If we are to save our patients from the contingency of a diffuse septic peritonitis due to perforation without protective adhesions, we must operate on all cases of appendicitis—the mild as well as the severe. That view of the case I accept, and probably no one will be found to gainsay it. But what does this mean when we view it in the light of reasonably settled facts? The subject presents itself to me somewhat in this light: Taking all the cases of appendicitis, it is probable that from eighty to ninety per cent. will recover from the first attack without perforation or suppuration. Of those who do not so recover, from eighty to ninety per cent. will have a circumscribed collection of pus, and will be relieved by an exceedingly simple and fairly safe operative procedure. The very small percentage left will have more serious conditions, including the rapidly generalized septic peritonitis. Of these cases a very large per cent. will perish, but to prevent this condition and to save these patients we are asked to operate on all cases, with the fact before us that the operative mortality can scarcely be expected to be in the near future materially less than about ten per cent., though even with five per cent. the propriety of immediate operation would be doubtful.

I am anxious to establish the position of modern surgery on as high a plane as possible, for I believe it merits it, but there is such a thing as making too large claims and too strong a statement of the case. The surgeon can do much, but so can Nature. In a certain sense the first case related in this paper had recovered from a very serious and unusual condition of affairs, and it is not at all improbable that the second case might have recovered from the attack. The pain was subsiding at the time of the operation, and the gangrene had not extended so far or so deep but that repair might have occurred without perforation. It was only necessary for the swelling to have subsided somewhat so as to remove strangulation when, granting that embolism or thrombosis of a septic character was not present in the vessels, repair would almost certainly ensue. That a certain amount of scar material would result and favor future attacks relates to our duty in recurrent attacks, and is not a part of our present consideration of the subject.

In so far as I can estimate my duty in these cases, my conclusions have been that in all cases of appendicitis during the first attack I do not operate unless suppuration or diffuse peritonitis requires it. In lapsing or recurrent cases, in which it is probable that distortion or other permanent injury to the appendix exists, operate. In this way it is quite probable that we may occasionally have the sad experience of seeing a patient perish who might have recovered under operation, but we will be spared the still sadder reflection that we have been instrumental in the death of a larger number who might have recovered had we abstained from operating.

But, whatever may be our view of the case, let us not deceive ourselves through a fortunate personal experience by the assumption that the operation, in fact that any operation involving the abdominal cavity, is devoid of danger.

A CLINICAL STUDY OF KRYOFINE.*

By SIDNEY V. HAAS, M.D.,
LATE HOUSE PHYSICIAN,

AND J. BENNETT MORRISON, M.D.,
LATE HOUSE SURGEON, MOUNT SINAI HOSPITAL, NEW YORK.

It has been some time since a new coal-tar product has attracted much attention as an antipyretic and analgetic. Such a one, however, is kryofine, a methoxy-acetic acid-para-phenetidine. Attention was first called to its therapeutic value by its discoverer, Dr. Bischler, of Zurich, and it has since been used extensively in the medical clinic of Zurich University by Professor Eichhorst, who considers it the most reliable antipyretic with which he is acquainted.

"Kryofine crystallizes from watery solutions in needles, with a melting point of 208.4° to 210.2° F. These crystals are white, and in moderate doses tasteless. In doses exceeding fifteen grains, one has, after a few moments, the sensation of chewing willow bark. It is soluble in boiling water 1 in 52, in cold water 1 in 600. It is soluble also in alcohol, ether, chloroform, and the oils in excess. The fatal dose for mice was found to be three grains, and for a medium-sized dog two hundred and one grains, death occurring by general paralysis, extreme slowing of respiration and pulse. The kidneys showed nothing pathological. In healthy human beings, large doses, up to seventy-five grains, did not cause any subjective disturbances. After doses larger than fifteen grains, however, there occasionally appeared cyanosis, lasting several hours, accompanied by diminished frequency of respiration." †

"Kryofine can be detected in the urine in from fifteen to twenty minutes, disappearing in six to eight hours." *

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* It is by the courtesy of Dr. J. Rudisch, Dr. A. Meyer, and Dr. A. G. Gerster, of the attending staff, that we have been enabled to make use of the clinical notes.

† *Centralblatt für innere Medicin*, 1897, No. 11, p. 216.

During the four months of its use in the wards of the Mount Sinai Hospital kryofine proved to be an antipyretic of excellent qualities, comparing very favorably with the other coal-tar products.

It reduces temperature gradually, attaining its maximum effect in from three to six hours. As an analgetic, it has given excellent results in the treatment of headache from whatever cause. It has also proved very effectual in a number of cases of neuritis, particularly sciatica. In other cases, however, the results were negative. In relieving the malaise of acute febrile conditions, nothing we have used has given such favorable results. As an hypnotic in insomnia, unaccompanied by severe pain, it has proved of undoubted value.

Kryofine reduces the pulse rate with the temperature, acting practically without cardiac depression. In only two cases of the one hundred and fifty in the series referred to below were there any collateral symptoms noticed. The first was a woman, aged nineteen years, suffering from typhoid fever, with lobar pneumonia, accompanied by severe delirium. Here, after the administration of twenty-two grains and a half in divided doses at three-hour intervals, there appeared cyanosis, cool surface, and a rapid pulse, requiring stimulation. The other was a case of far-advanced pulmonary phthisis, complicated by appendicitis, in a woman aged fifty years, in whom the debility was marked. Here, after the ingestion of fifty grains in divided doses at four-hour intervals, there appeared symptoms of collapse, which lasted two hours, but were not followed by any bad effects.

Schreiber, in *Deutsche medicinische Wochenschrift*, 1897, No. 45, reports the case of an elderly woman suffering from pulmonary phthisis in the last stages where, after the administration of moderately large doses, symptoms of collapse occurred. It is but fair to say that these were very serious cases, in which asthenia was a prominent feature, and in none of them could the depression be directly attributed to the drug itself. We would also state that, for purposes of observation, no stimulant—*i. e.*, caffeine, whisky, etc.—was combined with kryofine, whereas with phenacetine and antipyrine it was generally used. Upon the kidneys, even in cases of acute and chronic nephritis, no bad effects were observed.

The drug was used in doses ranging from two grains and a half to twenty-five grains. The usual dose was seven grains and a half. The maximum amount administered in twenty-four hours was sixty grains. On account of its being sparingly soluble it is best given in tablets, wafers, capsules, or dry on the tongue.

The drug was administered for its antipyretic, analgetic, or hypnotic effect in a series of about one hundred and fifty cases, including typhoid fever, intestinal self-intoxication, malaria, lobar pneumonia, acute bronchitis, pleuritis sicca, pulmonary phthisis, empyema, acute and chronic endocarditis, pericarditis, septicæmia, pyæmia, acute and chronic nephritis, osteomyelitis, coxitis, post-operative septic cases, gastritis, fæcal impaction, pruritis with insomnia, anæmia, hysteria, neurasthenia, neuritis, and trifacial neuralgia. Bresler, of Freiburg, claims excellent results for the preparation in a recent epidemic of influenza. The fact that kryofine was successfully used for the relief of temperature and restlessness in acute and chronic endocarditis and pericarditis, without any manifestation of depression, speaks well for the action of the drug on the heart.

The conclusions we have drawn from its rather extensive use are as follows: As an antipyretic, while not reducing the temperature so rapidly nor so markedly as the other coal-tar products, it is certainly very efficacious, at the same time being a safer remedy than the other members of the group, and its diaphoretic action being much less marked.

As an analgetic, it is at least equal to the other members of the group, with the advantage that it is sometimes effectual where the others have failed.

As a hypnotic, when insomnia is due to causes other than that of severe pain, it is of decided value, and probably superior to the other members of the group.

Appended are clinical notes of some cases in which kryofine was administered. Owing to lack of space, detailed clinical data have been omitted; but in several instances the results were so striking as to merit notice.

(*a*) Case of acute suppurative arthritis, general sepsis, and pericarditis in a boy aged nine years. Temperature ranging between 103° and 103.4° F. The symptoms of pericarditis were marked, but the drug did not affect the pulse. When the child was restless at night two grains and a half of kryofine produced a quiet sleep lasting several hours. Patient recovered.

(*b*) Case of empyema, double lobar pneumonia, in female, aged twenty-eight years. Temperature ranging between 103.4° and 105.4° F. for four days; during this time heart action extremely poor, pulse small and weak. Extremities cold; cyanosis marked; respiration labored; restlessness and, at times, delirium extreme. Cardiac condition was not aggravated by seven grains of kryofine, and sleep followed almost every administration. Phenacetine and antipyrine were tried in comparison, but both were discontinued on account of depression. Patient recovered.

(*c*) Case of sacro-sciatic neuritis in a man, aged forty-two years. Kryofine in doses of five grains gave almost instant relief, and sleep for a period of three hours followed. This good result was obtained for ten days, after which time the effect of the drug was lost.

The Richmond Academy of Medicine and Surgery.—At the last regular meeting, on Tuesday, the 22d inst., Dr. W. S. Gordon was to open a discussion on Cerebral Localization.

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* *Deutsche medicinische Wochenschrift*, 1897, No. 45.

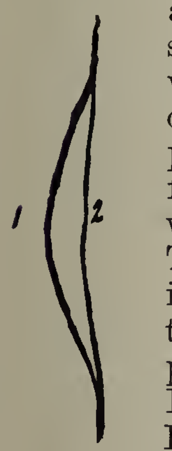
THE CORRECTION OF SPINAL DEFORMITY BY MANUAL FORCE,

UNDER AN ANÆSTHETIC.

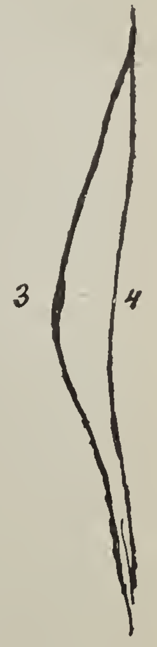
By V. P. GIBNEY, M. D.,
SURGEON-IN-CHIEF TO THE HOSPITAL FOR RUPTURED AND CRIPPLED; CLINICAL PROFESSOR OF ORTHOPÆDIC SURGERY, COLUMBIA UNIVERSITY, MEDICAL DEPARTMENT.

Since the publication of the remarkable results by Calot, the surgeons in England and on the Continent have operated in like manner, but so far as I am aware the operation has not been attempted in this country. At the Hospital for the Ruptured and Crippled we are so familiar with the correction of deformity at the hip and knee, and even at the ankle, that the attempts at correction of deformity of the spine have not seemed especially hazardous, especially if one takes pains to employ absolute immobilization immediately after correction. As a contribution to the subject I offer the following cases:

Case I.—M. D., a boy, twelve years of age, was admitted February 18, 1898. The history was vague, but the deformity was quite marked, and it was reported that he had spinal trouble as long as he could remember. There was no history of any treatment. The boss occupied the lumbar region. A photograph was taken, but as it is unnecessary to reproduce it here I shall content myself with giving merely an outline of the deformity as taken by lead tape. He walked very awkwardly, bending forward, and it was with difficulty that he could hold himself in the erect posture. I could make out no psoas abscess, although there was some contracture of the psoas and iliacus muscles, both sides. The tracing (No. 1) shows the outline as he lay prone upon the table; No. 2, the outline after forcible correction. All acute symptoms had long subsided, and inasmuch as the deformity occupied the region of the column in which the cauda equina lies, I could see no possible danger in forcible correction. On March 1st, under gas and ether, I had two members of the house staff take the lower limbs, two the upper, and, with the hip rest under the thighs and a broad one under the upper part of the thorax, I employed manual force over the boss. I could feel distinctly the parts yielding with a noise which was heard over the operating room. This part of the operation was complete within a few minutes. I then took special pains to pad with piano felting the parts where pressure had been made, also the iliac crests. I applied at once a close-fitting plaster-of-Paris jacket in the recumbent posture. There was at no time any interference with the respiration. He rallied quickly from the anæsthetic, did not require any opiate that night, and the next morning was anxious to sit up in bed and read the paper. There was no elevation of temperature. He was up and around on the third day. Is at present walking perfectly erect. The plaster of Paris has not been removed as yet, and I shall not do this for at least two or three weeks, and then only to reapply it.



Case II.—A. O. N., a boy, six years and six months of age, was admitted to the hospital June 11, 1896, for Pott's disease, the boss occupying the mid-dorsal region. He has worn jackets up to the present time without any discomfort. The disease was already of two months' standing at the time of his admission. On the 8th of March I prepared him for operation. The tracing (No. 3) shows the deformity as he lay prone upon the table. No. 4 is the tracing after correction. The procedure was identical with that in the first case. Gas and ether were employed and the respiration was not interfered with to any extent. Once or twice during the operation he seemed to breathe rather poorly, but on giving him a little air the respiration went on normally. The operation was done in the forenoon. His pulse was a little irregular, but all this irregularity disappeared before night. He required no opiate. Had no rise of temperature, did not complain the next day. The third day he was up and around. He has not complained of any pain since the operation.



Case III.—*Rotary Lateral Curvature, High Degree of Deformity, Dorsal.*—A. M., female, fourteen years of age, admitted December 14, 1897. Her deformity had existed four years. She was rather short in stature and presented a typical classic hunchback. Early in January I made an attempt to extend the spinal column in the horizontal position, under an anæsthetic, on a frame, but Schleich's formula was employed and there were soon evidences of chloroform poisoning, and the operation was not continued. On March 8th, under gas and ether, I had her lie on the left side with a hip rest under the hip, one in the axillary space, and, while powerful traction was made by two assistants at either end, I forced the column into a much better position. The deformity was not fully corrected, nor did I take any tracings of the outline. There was at least an inch gain in height. Plaster of Paris was applied, and she has had no reaction whatever; she is delighted with the result, inasmuch as she appears to be much taller. It is intended to repeat the procedure during the coming week.

These three cases I merely place on record to show that a great amount of force can be employed in selected cases.

PRELIMINARY REPORT OF

A CASE OF BLASTOMYCETIC DERMATITIS.*

By H. GIDEON WELLS, Ph. B.,
ASSISTANT IN THE PATHOLOGICAL LABORATORY OF RUSH MEDICAL COLLEGE, CHICAGO.

(From the Pathological Laboratory of Rush Medical College.)

In the first volume of the *Johns Hopkins Hospital Reports* there is reported by T. C. Gilchrist a case of dermatitis resembling clinically skin tuberculosis, but apparently due to the presence in the lesion of a form of blastomyces. At the last meeting of the American Dermatological Association he reported a second case, in which he found a similar lesion due to the same kind of organisms. So far these two cases stand alone among the numerous blastomycetic infections, being entirely different from all other forms described by Busse and other observers.

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* Presented, with specimens, to the Chicago Pathological Society, October 11, 1897.

The case to be described adds a third to this group, and its discovery so soon after Gilchrist's first report appeared, makes it seem probable that a hitherto unrecognized cause of skin lesions will be found to prevail in many cases ordinarily diagnosticated as lupus vulgaris. It was presented in the clinic of Professor Senn at Rush Medical College, during my service as pathologist to the surgical clinic, and I am indebted to him for the opportunity of presenting this case.

The patient was brought to the clinic by Dr. J. T. Phillips, of West Union, Iowa, on March 23, 1897. Dr. Phillips had observed the case for over a year, and furnishes the following history: The patient is a well-nourished man, forty years of age, a native of Iowa, farmer by occupation. He presents a good personal and family history, married, has five healthy children, none of whom have ever had any similar affection, nor has any person of his acquaintance. A thorough physical examination shows him to be free from any pulmonary or glandular involvement. The disease began eleven years ago as a small pimple on the back of the first phalanx of the left little finger. This pimple became an ulcer, which gradually enlarged, extending up over the knuckle on to the back of the hand, over which it slowly spread. It never invaded the palm. The highest it ever reached was just above the head of the radius. It extended from the junction of the palm and dorsum of the hand on the ulnar side to the base of the thumb, and grew down to the second phalanx of the index finger, to the middle of the second phalanx of the second finger, just beyond the first phalanx of the ring finger, and never extended below its starting point on the little finger. During its progress the older portions of the lesion would sometimes heal up, leaving a poor substitute for skin, which was of low resisting power, for it would repeatedly become reinvaded by the disease.

In appearance it was a raised fungating mass, in some places three quarters of an inch above the normal level of the skin. When washed it was of a dark cherry-red color,. sprinkled with cheesy pinhead-sized masses. After being left for a time the surface would become covered with a crust of pus, scales, and *débris,* which was readily removed. Secondary infection frequently occurred, sometimes producing large-sized abscesses. When the wet dressings that had been applied for some time were removed, the growth had a honeycombed appearance and bled very easily. Every ordinary form of antiseptic treatment, hot fomentations, etc., were tried, but the only evident effect was on the secondary infection. Early in its course attempts had been made at its removal by caustics, plasters, etc., without result.

Pain was constant in the hand, often especially severe at night, but the patient was able to do his farm work and felt perfectly well otherwise during all this time. Although there were abundant opportunities for infection of other parts of the body, no other foci ever appeared, and the growth was solely by extension. Dr. Phillips considered it a case of skin tuberculosis, and Professor Senn agreed to the diagnosis. He removed the entire area involved, covering the surface by a plastic operation, with excellent results. Since his discharge from the hospital the patient has been perfectly well, and there have been no recurrences.

Cultures were made on blood serum, agar-agar, bouillon, and gelatin by rubbing small fragments over or in the media, so that any deeply located organs might be implanted. A rank growth was obtained in all the tubes, from which were isolated the *Staphylococcus pyogenes aureus* and *albus,* and three varieties of bacilli, none of which produced any reaction when inoculated into rabbits, being evidently saprophytic putrefactive organisms. In none of the original cultures could be found any of the budding fungi to be described later.

A piece of the tissue was implanted subcutaneously into a young rabbit. In a week an abscess developed, reaching the size of a hickory nut, and on the ninth day it broke down, forming later an ulcer, with raised margins from which could be squeezed a whitish pus. A second rabbit was inoculated with this pus and had a swelling of the size of a hazelnut, which subsided and healed. The general health of the rabbits remained good, and at the end of three months the one first inoculated was killed. No lesions could be found in any of the viscera. The pus from the abscess was carefully and repeatedly examined, stained, unstained, and treated with caustic potash, but the yeast fungi could never be found. Cultures from the abscess yielded the *Staphylococcus pyogenes aureus.* The tissue was hardened in various fluids, and from this material the case has been studied.

Microscopical Examination.—The most marked change is the great increase in the epithelial layer of the skin. Columns of epithelium are seen growing into the corium to a depth of about four millimetres, uniting masses of deeply situated epithelial cells to the superficial layers and to each other, almost exactly as it is seen in skin carcinoma. None of the appendages of the skin are present in any form. The papillæ, however, come up to within the usual distance of the surface in many places, but they can not often be traced directly down to the deeper layers of the corium on account of intervening epithelial tissue. In serial sections it is found that the papillæ are in many instances long fingerlike columns of tissue, often bending and running at right angles to the surface. These appearances can best be explained by considering the hypertrophy of the epithelium to have occurred chiefly in the deeper layers of the interpapillary processes, crowding down into the corium and distorting the papillæ by irregular expansions in lateral directions so that sections at right angles to the surface show them mostly in transverse and oblique section.

The stratum corneum is much thickened, and in many places desquamated. On its surface is scattered much *débris,* consisting of blood-corpuscles, shreds of corneum, swollen squamous epithelial cells, and many varieties of bacteria. Frequently it is found split into layers or lifted from the deeper layers by an exudate containing similar substances. The blastomycetes were never found in this *débris.* The stratum granulosum and stratum lucidum are not demonstrable.

The hypertrophied Malpighian layer, which forms the masses of epithelium existing below the ordinary level, is distinctly separated from the corium by the usual layer of cylindrical epithelial cells which appear quite normal. The prickle cells show their processes very distinctly. In the central part of the larger columns the nuclei are not numerous and stain poorly, being separated by a small space from the cell protoplasm. The cells are also separated from each other by similar spaces in many cases, giving the whole structure an œdematous appearance. Small epithelial whirls are abundant. Many leucocytes are found in the spaces between the cells, and miliary abscesses are numerous in the epithelial masses.

These abscesses can generally be found to contain one or more parasites if they be examined by serial section, and can be traced from the very earliest stages. They first show about the parasite a few swollen epithelial cells separated by a small amount of exudate containing leucocytes, which can be seen making their way between the epithelial cells toward the abscess. The abscesses appear to increase in size rather by accumulation of leucocytes than by destruction of the epithelium, for the larger ones consist of a mass of leucocytes, mostly of the polymorphonuclear variety, surrounded by layers of epithelium much flattened by pressure, and epithelial cells are found free in the contents of but a few of these abscesses. It is an interesting fact that in some of the abscesses isolated in the epithelium, and in no communication with the corium, typical giant cells are found, which must have been formed from either the epithelium or from the cells that have wandered in.

In the corium is a great increase in the cells, the nuclei of which are large and stain intensely. These cells are gathered into masses, in many places resembling granulation tissue. Polymorphonuclear leucocytes are everywhere present. Where the embryonal cells are less numerous the connective tissue is made up of cells with long anastomosing processes, resembling cells of myxomatous tissue, and containing in their meshes eosin-staining granular material and many leucocytes. The subcutaneous connective tissue contains foci of granulation tissue, and appears to be œdematous. Blood-vessels are numerous and generally dilated.

Giant cells are very numerous in the corium, often in groups of three and four, and most numerous in the deeply cellular portions. Like the giant cells of the miliary abscesses, they are identical in structure with the typical giant cell of tuberculosis, consisting of a peripheral layer of nuclei and a central mass of finely granular eosin-staining material. Vacuoles, usually larger than a nucleus, sometimes involving half the central portion, are numerous. They may be due to shrinkage, but they are equally evident in all specimens, no matter in what fluids they may have been hardened. There are, however, none of the characteristic zones of tubercular foci about the giant cells, which are scattered about with no apparent relation to the structure of the tissue in which they lie. Many sections were stained in search of tubercle bacilli, but none were found. This negative result is borne out by the results of the inoculation into rabbits.

The parasites are found chiefly in the miliary abscesses both of the corium and of the epithelium; also in the giant cells, whether loose in the corium or in the abscesses; and often they are found free in the corium, but never without more or less evidences of inflammatory reaction about them. They have never been found included in any of the tissue or wandering cells. In size the adult forms are about the size of or a little larger than a white blood-corpuscle.

In structure they are seen to be composed of four chief parts, from without inward, being: 1. A capsule. 2. A transparent zone. 3. A central protoplasmic portion. 4. A vacuole within the protoplasm.

The capsule appears under the microscope as a well-defined dark line about the fungus. The transparent zone separates the capsule from the protoplasmic centre of the parasite. It varies much in thickness, sometimes being difficult to detect and again being equal to a fifth to a sixth of the diameter of the entire organism. The protoplasm is very granular, and stains fairly well with methylene blue or iron hæmatoxylin, but not by Gram's method nor red by Gabbet's method. The vacuole is not always present, particularly in organisms that are budding or have just been separated from the parent plant, yet it probably has no relation to the process of division, for in some cases the vacuole itself seems to enter the bud and be divided off with the protoplasm. The vacuoles are located centrally, for protoplasm granules can always be found above them by focusing. Sometimes they are multiple or consist of two or three connecting lobes.

What may be considered the mature organisms, the large solitary forms, are spherical in outline, and the four constituent portions are arranged exactly concentrically. The process of division occurs in the following manner: A small process of protoplasm appears, which pushes before it the capsule and the transparent zone, making it probable that this zone consists of some firm substance rather than merely a fluid-separating capsule from protoplasm. After the protoplasm has passed a short distance beyond the original margin of the capsule the process begins to enlarge at the extremity, and a small oval bud is formed. After this bud becomes from a half to three quarters as large as the parent the capsule sends a sæptum across its base, shutting it off. Frequently the parent begins to bud anew before the first formed bud has become separated, and in this way a string of four to six organisms may be formed.

It can not be said that the giant cells produce any effect on the parasites they contain. Organisms in all stages of multiplication are found within them. Frequently they are found to contain what appears to be the capsule of one or more parasites, having no protoplasmic contents; but similar forms may be found in the tissues outside the giant cells, and so there is no evidence that the giant cells are responsible for the changes. Neither is there anything pointing to the leucocytes as having produced any changes in the parasites.

If this case is compared with the one first reported by Gilchrist, their identity will be apparent. With Gilchrist's first report there is no clinical history or description of the lesion, beyond that it resembled a typical case of scrofuloderma. The second case is more complete in this respect. Here the history is, briefly, that the lesion had existed for eleven years and a half, starting as a pimple behind the left ear, and leaving, in its track over the face, healed scars. In its chronicity, origin, and course it resembles the case just described, but differs in that there were secondary infections on the hand, scrotum, thigh, and back of the neck, which exhibited a tendency to spontaneous healing. The case resembled lupus vulgaris. There was no adenopathy. The microscopic study showed this case to be identical with the one first described.

However, in this second case Gilchrist was able to secure the parasites in pure culture. They grew on the ordinary media, particularly on potato, and developed a mycelium stage which was never observed in the tissues. They did not produce fermentation of lactose, glucose, or saccharose. They were pathogenic to guinea-pigs, dogs, sheep, and horses, but not to mice, and in one case not to rabbits. The failure to obtain cultures from the case under consideration may possibly be due to the presence of such a multitude of saprophytes and pus microbes, their more rapid growth having prevented the multiplication of the blastomyces. That no effects were obtained by inoculation into rabbits may be explained on the same ground, or it may have been due to a lack of susceptibility of the animal, as shown by Gilchrist's inoculation experiments.

These three cases are quite different from the well-known case described by Busse,* in that in the latter the skin lesions were but part of a general infection, starting as an abscess in the tibia and producing a pyæmia. The organisms were also different, possessing nuclei staining deeply by Gram's method and other common stains, and resembling tissue cells.

The discovery of two cases of blastomycetic dermatitis so soon after the appearance of Gilchrist's complete report in the *Johns Hopkins Hospital Reports* makes it probable that this form of infection will be found to be more prevalent than at first supposed. Probably until now these cases have been passing among practitioners unchallenged as lupus vulgaris, although careful re-examination of a number of specimens removed in the surgical clinics of Rush Medical College during the past two years has failed to show any evidences of blastomyces. At present, with but two cases reported fully as to their clinical history and appearances, it is impossible to draw any comparisons that will enable the physician to tell from the clinical aspect whether the lesion is due to the tubercle bacillus or to the blastomyces of Gilchrist; the microscope alone can be relied upon to establish the difference.

A HOUSE EPIDEMIC OF SYPHILIS.

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THE virus of syphilis is found in its fullest activity in most of the earlier lesions of the disease, but fortunately two concomitant conditions are probably required for the infection to be conveyed from one individual to another. It is very certain that the epidermis covering the infecting lesion must be fissured or removed, so that the tissue fluids containing the active agent may have free access to the surface. This is frequently not the case with the infecting chancre or sclerosis, which, it can not too often be insisted upon, is essentially a tumor covered with an unbroken epidermis, and is only accidentally an eroded or ulcerated lesion. It is almost always the case with the mucous patch; for here the conditions of heat and moisture are such that maceration and removal of the superficial epidermic layers necessarily occur, and the contagious elements are present on the surface suspended in the fluid secretions of the eroded papule. The presence of this condition is one of the reasons why syphilis is probably so much more often acquired from a mucous patch than from any other lesion, the chancre itself being a comparatively rare source of infection, both on this account and because of its short duration and prominence and the ease and evident desirability of avoiding communication of the disease during the time of its presence.

The other condition is one affecting the recipient. The syphilitic virus does not, so far as we know, possess the power of penetrating the unbroken integument. A lesion of some kind, either accidentally present or acquired at the moment, seems requisite for its implantation upon the tissues of its new host.

The absence of these two factors at one and the same time explains the comparatively feeble power of infection possessed by the disease; not in the sense of possible resistance of an organism that has never been subject to syphilis to the fairly implanted contagion, but feeble in view of the fact that of so many opportunities for conveyance of the contagion so few are followed by an inoculation of the disease. Infective lesions in every stage are handled in our offices and clinics; syphilitics live through the entire course of their disease in unsuspecting households, and no infection occurs in the vast majority of cases. The exceptions almost serve to demonstrate the rule. Were it otherwise, our patients with their mouths full of mucous patches would scatter the disease far and wide, and it would be difficult to understand how any one who handled these cases frequently, or who lived in the same household with one of them, could escape.

Widespread contagions do, however, occasionally occur. Russian medical literature, more especially, contains many examples of epidemics occurring in families and villages. This is possibly due to rather elemental notions concerning personal cleanliness, though they are occasionally caused by mistaken therapeutic ideas, more especially ideas as to the supposed curative effects of licking with the tongue in certain common affections of the eyes. In our own community widespread communication of the disease is rare. The following is an account of a house epidemic of syphilis which was brought to my notice during this winter. I recount the history in connected order, and not as I elicited it, piecemeal, during the course of several weeks, from the not very intelligent patients. Moreover, I offer no opinion at all as to the mode in which the contagion was introduced into the family. The method of vaccination prescribed for its officials by the New York board of health, if faithfully carried out, almost precludes the possibility of infection through this process.

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* Ueber Saccharomycosis hominis. Virchow's *Archiv*, Bd. cxl, Heft 1.

There are ten members in the family, the father and mother and eight children, of ages ranging from a six-months' infant at the breast to a fourteen-year-old girl. They lived in what is euphemistically called a three-room apartment, but what is really a dwelling composed of a single moderate-sized room with two windows and two large but dark closets, called kitchen and bedroom, opening out of it. The conditions as to privacy, sanitation, and cleanliness were naturally about as bad as could possibly be.

The father has not been sick, and shows no signs of syphilitic infection, either past or present. There is no reason to suppose, either from his appearance or his habits, that he is responsible for the introduction of the disease into his family. Three out of the eight children also have so far shown no signs of the disease. Final notes were taken on January 10, 1898. Infection occurred in the following order:

1. G. G., boy, two years old. Was vaccinated in July, 1897, by an official of the board of health. Had never been sick before. Was not seen again by the vaccinator; two weeks or so after the operation another medical officer came, but the boy was asleep at the time, and he was not examined. The vaccination ran a lengthy course, was not much inflamed, but healed very slowly. About one month after the vaccination there appeared a general eruption of pink spots, with sores in the mouth. These lesions disappeared slowly without any medicinal treatment. As the child seemed sick, he was taken to a children's hospital, where he has since remained, with a diagnosis given to the mother of "marasmus." Inquiry at the hospital showed that the child had had no symptoms of syphilis at the time of admission, and was now suffering from a subacute pulmonary inflammation of rather obscure nature. Tuberculosis was suspected, but repeated examinations, even of material collected with the aid of a tube, have failed to reveal the presence of the tubercle bacillus. The child was still alive in February, 1898, but in very bad condition.

2. A. G., the mother, thirty-four years old. During the latter part of the summer she noticed a "blotch" upon her cheek, which gradually developed into a hard, painless lump. At last it began to run, developing a sore on its top which grew to be as large as a ten-cent piece. Local pain and discomfort throughout were very slight, but she felt badly, was "sick all over," had no appetite and no ambition to work. She went to a public clinic, was given a salve and internal medication, and the ulceration and lump slowly disappeared. While it was still present there appeared an eruption of small red blotches all over her face and body; she suffered much from persistent headaches, and her hair fell out. In September sores began to appear in her mouth, and they have been present ever since. At the present time, February 3, 1898, the patient is hoarse, has a characteristic syphilitic pharyngitis and laryngitis, with extensive mucous patches of the lips and tongue. Immediately above the proximal end of the left labio-nasal furrow is a bean-sized, depressed, red, recent cicatrix, with a good deal of brownish-red discoloration for some distance around it. A right iridocyclitis has since (February 10, 1898) developed.

3. E. G., girl, fourteen years old. At the end of August, when the "lump" was beginning upon the mother's cheek, she had an eruption of spots very similar, the mother says, to those upon her own body, but larger and more thickly strewn all over the surface. No larger sore was noticed, and there were not, so far as is known, any sores upon the privates or in the mouth. She was taken to the clinic and treated by internal medication for her "blood disease." As she was inclined to be wayward, she was placed in a reformatory institution, where she now is. In spite of the fact that the eruption in Case I appeared several weeks earlier than in this case, the mother is inclined to regard the girl as the source through which the disease was introduced into the family.

4. A. G., a girl, aged nine years. During the month of September this patient had a "lump" and sore very like that upon the mother's cheek on the outer extremity of the upper left eyelid, followed by hoarseness and soreness of throat and tongue. She was taken to an ophthalmic dispensary, and there treated by internal medication. Inquiry at the institution reveals the following: A. G. was treated there during the month of October of last year for an affection of the lid, diagnosticated as lupus of very recent development by one of the assistants at the clinic. There is no record of any operative or destructive treatment, and her visits were not many, as the lesion soon disappeared under internal medication. At the present moment the girl shows no signs of active disease. There is a distinct loss of tissue, with destruction of some of the cilia on the free border of the left upper eyelid near the external canthus. The correctness of the diagnosis of lupus is more than doubtful. Its quick development, its retrogression under internal treatment alone, the concomitant pharyngeal and buccal symptoms of lues, and the presence of the infectious disease in the other members of the family, render it almost certain that the lesion was a sclerosis. The mistake might readily occur in the hurry of a large out-patient service devoted to quite other than dermal diseases.

5. W. G., a boy, aged four years. Spots similar to those that had been upon the mother's body appeared all over the surface in November. There is no history of any suspicious tumor or sore, and examination fails to reveal the site or remains of an initial lesion. The child is hoarse, and a fading but distinct macular syphiloderm is still visible on the trunk and extremities.

6. C. G., a girl, aged seven years. This child has had an eruption on the body for the past three weeks. It is a characteristic roseola, covering the whole body, though most marked upon the legs and arms. There are great hoarseness, a characteristic pharyngitis, and mucous patches upon both tonsils. Here also the site of infection could not be found.

7. J. G., nursling, aged six months. The child has been sick and ailing for some weeks. Its cry is hoarse; its mouth is sore, showing not very characteristic opalescent patches upon the lips and tonsils; and a large macular eruption is present, most marked around the mouth and the anus.

Such a series of cases as this in one family is rarely met with in this country. A somewhat similar one came under my notice some years ago, in which the grandmother of the family, an old woman, contracted a chancre on her left forearm. She had been in the habit of carrying around "bare-bottomed" an infant that had been put in board with her, and which had moist papules around the anus. She infected her married daughter, who in turn infected several of the children, and the disease finally reached the head of the household, the place where it usually begins.

Of the seven cases in the house epidemic above described five presented indisputable evidences of active lues. E. G., the fourteen-year-old girl, I did not see, but the history is so plain and characteristic that there can be very little doubt as to the disease with which she was affected. The same may be said of G. G., the two-year-old boy who was taken sick first; and it is possible that the obscure lung affection from which he is now suffering may be one of the pulmonary localizations which occur perhaps oftener than we are aware in the course of constitutional syphilis. Two children and the father have so far escaped, but they will probably be infected before the epidemic ends. The conditions are all such as to favor the spread of the disease, and the elaborate precautions that should be taken when such infective lesions as mucous patches are present in one member of a household can not be carried out. What these precautions should be, and in how far we may permit a syphilitic with infective lesions to pursue his ordinary mode of life, is a subject of the greatest practical interest, but one which would lead me beyond the limits of the present paper.

144 West Forty-eighth Street.

A CONSIDERATION OF

THE PLACE AND VALUE OF HYPNOTISM IN THE TREATMENT OF DISEASE.*

By W. P. WILKIN, M. D.

Whatever theory may be accepted as best explaining the true nature of the hypnotic state, it must be admitted that hypnosis is a normal condition; that it is not a morbid state of either mind or body; that it is not indicative of a weakened or subservient will, and that it is not a condition peculiar to only a few individuals. It is purely a psychological condition pertaining to the normal mind. It has been well demonstrated that the idiotic and insane are not hypnotizable, and that children and hysteriques are influenced with great difficulty.

Dangers of hypnotism, when hypnotism is employed as a therapeutical agent, have, I believe, no existence in fact, and the matter is mentioned here for the object of dissipating or at least opposing the too general belief that the employment of hypnotism might result in injury to some patients. The subject's sense of right or wrong is not weakened in the hypnotic condition. Indeed, he will in all probability show a keener and more subtile discrimination of moral questions than he does in his ordinary normal condition, and his will is not weakened while in this state. Employment of hypnotism for the treatment of any morbid condition causes no deterioration of the will or morals of the patient and results in no weakening or lessening of his individuality.

Indeed, in many cases I have observed a most radical moral toning up to follow the treatment, and I would say that where hypnotism is properly employed it undoubtedly assists in bringing into use the better elements of the individual's disposition.

In what conditions shall we employ hypnotism? In what diseased states will we find it useful?

My attempt to make plain the fact that hypnosis is a state pertaining to the psychic sphere may here indicate the conditions in which I would recommend its therapeutic applications. Its employment in the treatment of morbid states of the nervous system involving either the mental, moral, or physical conditions of the individual will often result in benefit to the patient.

I do not consider psychotherapy a cure for hysteria and neurasthenia, but I have found it most useful in treating these diseases when applied to morbid mental and moral states which are so often aggravating concomitants of these diseases.

In all conditions of fixed ideas, in the many forms of phobia or fears, in certain forms of insomnia, especially habit insomnia, and that form found so frequently in hysterical patients, psychotherapy will be found in many instances the most successful means of combating these conditions. In the various peculiar moral conditions, associated with or without nervous symptoms, where, for instance, the patient has lost his individuality and realizes nothing of his personal responsibility, psychotherapy will often help such individuals to a better understanding and management of themselves; also, in many cases of dipsomania and other enslaving habits, the victim will find this method of treatment his sure salvation.

That I may make clearer diseases in which I have found this method of treatment of special and peculiar benefit, I have selected a few cases from my histories which I will briefly detail here.

Case I.—William S., aged twenty-one years; United States; agoraphobia; neurasthenia. One year ago this patient applied at the Post-graduate clinic for treatment, complaining of a fear of going out upon the street alone. He would not cross the street unless some one accompanied him, as the fact of doing so would excite him intensely, and tinnitus, vertigo, palpitation, and other nervous symptoms would be instantly produced; the wider the street the greater his fear. He was always sure he would fall before being able to get across. It would seem, he said, as though the houses would fall together and the pavements bulge up, everything seeming to close in upon him. He remained indoors the greater part of the time; the smallest trifles would annoy him; frightful dreams, in which he would seem to be falling over an abyss, would harass him at night; he at times would feel that his mind became an absolute blank, a complete loss of personality, as though his consciousness had become separated from his physical nature. At such times he felt sure he was dying. The young man had been forced to give up his occupation, which was that of a photographer, on account of this nervousness, and had become a social recluse entirely abandoned to his morbid fears. His nervous symptoms constituted his sole trouble. His movements and manner of talking indicated a very nervous temperament. He was treated in the "dormez chambre" and was completely cured, no other treatment than that of suggestion having been employed.

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* Abstract of paper read before the Neurological Section of the New York Academy of Medicine, November 19, 1897.

Case II.—Maggie B., aged twenty-two years; Ireland; melancholia; insomnia; domestic. Had never had any nervous trouble, she stated, until a month previous to the time she presented herself to me for treatment. After attending a ball one night she began brooding over some harmless joking remark a young man had made, until she felt that the young man had intended to insult her, and finally imagined that he had attempted to assault her. She became deeply melancholic and insomniac and later on in her trouble developed, so her sister stated, suicidal tendencies. Her mental perturbation was most marked when she was brought to my office one morning by her sister. She had been unable to sleep for several nights, and was in a truly pitiable condition. She was hypnotized without much trouble; suggestions were made to her that she would be able to sleep at night and that the idea that she had been insulted would worry her no longer. She was allowed to remain in the hypnotic sleep for twenty to thirty minutes; when awakened, the improved condition of the patient—her state of composure—was most marked. This treatment, together with nerve tonics, was continued systematically for several weeks, when the patient had improved so much that the treatment was discontinued. For several months after that at each menstrual epoch there was a recurrence, always to a milder degree, of her trouble. At such times a single *séance* was sufficient to overcome her nervous perturbation and to enable her to sleep without the employment of any drugs. Treatment was finally discontinued eight months ago. The patient has remained entirely well.

Case III.—Mrs. P. M., aged twenty-nine years; Germany; *idée fixe*. Used to keep a color or paint shop in her native town in Germany; sold tube colors, such as are used by artists; this was ten years ago. The idea that handling these paints was poisoning her system occurred to and began to bother her, and finally became so strong and persistent that she wanted to sell and did sell her shop; but it was easier to dispose of the shop than of the idea. She was married seven years ago; had one miscarriage at five months, but no children. Emigrated to this country soon after being married; the idea came, too, growing more and more persistent. She would scrub her hands, and wash them again and again to remove the poison with which she imagined they were contaminated. She conceived the idea that whatever she touched also became poisoned; then dishes, pots, pans, and kettles would be scoured and scoured again; rooms would be swept and dusted several times during the day with the idea that they had become poisoned, and finally the idea would develop in a longer or shorter time that the house itself was poisoned, and there was then nothing to do but move into other apartments. Although she seemed not to be a very promising subject for this mode of treatment, her husband having tried in vain all other methods that could be thought of and being desirous that I should try this, treatment was begun. Treatment was maintained for three weeks, resulting in improvement, but not cure of the patient.

Case IV.—L. U., aged twenty-two years; United States; clavus headache. This patient came under my treatment December, 1895. He stated that about three years previous there had developed a severe dull pain in the right side of his head in the region of the temple after a day of hard study at his books, he being a student at that time; the pain was very severe. He had an attack of influenza some months previous to the beginning of this trouble, but thought that he had entirely recovered from the effect of that. The pain continued constantly, varying in degree only, and finally became so severe that he gave up his studies, then his companions, then his experiments in the laboratory, and he became very much depressed and morbid. He visited various physicians, took quantities of medicine, tried the climates of Arizona and Colorado with complete and unvarying failure. His entire existence came finally to centre in that pain. In every way the pain dominated his life. In every other way the young man was entirely well; he was strong, even robust. His home was in the West. He came to this city thinking some surgical operation might be performed which would relieve him of this pain. He was seen by Dr. Dana and Dr. Starr, both of whom agreed in their diagnosis that the trouble was of an hallucinatory nature. He was sent to me for treatment by Dr. Dana. It was exceedingly difficult to hypnotize the patient in the beginning, the first three or four attempts being absolute failures. He was finally successfully hypnotized, and it was suggested to him that there was no pain in his head, that the idea would dominate him no longer, and that he would find himself entirely free from this pain when he stopped thinking of it. He was under treatment for six weeks, receiving three treatments a week, at the end of which time he was sent home entirely well. He has written me several times since his return, and always to the effect that the pain has never recurred and that he is perfectly well. The last report was received a month ago from his father, who stated that the patient had been entirely well since his return home, and that besides being free from pain he was changed in disposition, was bright and cheerful and companionable, and was interested in people and the different affairs of life. The patient has now been free from pain for two years, which time is sufficient for warranting the statement that the treatment was entirely successful.

66 West Forty-sixth Street.

Therapeutical Notes.

Europhene Collodion.—De Molènes, cited in the *Journal de médecine de Paris* for February 27th, employs the following formula:

℞ Europhene, } each .... 1 part;
Castor oil, }
Collodion .... 10 parts.
M. To be used as an application to wounds.

An Antiseptic Powder for Suppurating Surfaces.—The *Gazette hebdomadaire de médecine et de chirurgie* for February 17th gives the following as Schwartz's formula:

℞ Powdered iodoform,	equal parts.
Powdered salol,	
Bismuth subnitrate,	
Powdered charcoal,	
Powdered cinchona,	
Powdered benzoin,	

M.

Oil of Cade in the Treatment of Lupus Erythematosus.—Block (*Deutsche Medizinal-Zeitung*, October 11, 1897; *Gazette hebdomadaire de médecine et de chirurgie*, February 13, 1898) reports a case cured by two months' use of the following ointment:

℞ Oil of cade	5 parts;
Zinc oxide,	each 10 "
Green soap,	
Vaseline,	

M. A mercurial plaster was applied at night.

Silver Nitrate in the Persistent Diarrhœa of Children.—The following formula (*Clinique*, January 1, 1898; *Pædiatrics*, February, 1898) has been recommended:

℞ Silver nitrate	1 grain;
Dilute nitric acid	5 drops;
Mucilage of acacia,	each 4 drachms.
Syrup of orange peel,	

M. S.: A teaspoonful every three or four hours.

A Mixture for Epilepsy.—The February number of *Pædiatrics* gives the following:

℞ Sodium bromide	60 parts;
Sodium bicarbonate	75 "
Tincture of physostigma	25 to 50 "
Water	500 "
Saccharin	1 part.

M. Dose, a tablespoonful, diluted with water, morning and evening; after four days, suspend its use for three days and then begin again.

An Ointment for Acute Articular Rheumatism.—Lemoine (*Nord médical; Tribune médicale*, February 9th) gives the following among other formulæ:

℞ Vaseline	25 parts;
Salicylic acid	4 "
Sodium salicylate	3 "
Extract of belladonna	1 part.

M. To be applied and covered with cotton.

An Application for Painful Ulcers of the Cervix Uteri.—The *Journal de médecine de Paris* for February 27th gives the following formula as Lutaud's:

℞ Tannin	4 parts;
Lycopodium	10 "
Europhene	20 "
Compound powder of opium	1 part.

M. To be insufflated through a speculum and kept in place with a cotton tampon.

A Resolvent Mixture.—The *Gazette hebdomadaire de médecine et de chirurgie* for February 27th gives the following formula:

℞ Ammonium chloride,	each 10 parts;
Tincture of arnica,	
Camphorated vinegar,	each 75 "
Camphorated brandy,	
Infusion of rue	300 "

M. S.: For external use.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
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Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, MARCH 26, 1898.

SOMATOSE AS A GALACTAGOGUE.

DURING the last two years various observers have reported having witnessed a decided galactagogue effect from the use of somatose. Dr. Richard Drews, of Hamburg, who seems to have been the first to notice this effect, thinks that somatose has a specific action upon the mammary glands of nursing women. Dr. Georg Joachim, of Berlin (*Centralblatt für innere Medicin,* March 12, 1898), has lately employed somatose in a number of cases. He says it was with some misgiving that he began its use, but that feeling disappeared as he began to observe results more or less favorable. He finds that in a great many cases the preparation does exert an influence upon the secretion of milk, increasing its amount and improving its quality in favorable cases.

Joachim declares, however, that he does not believe that somatose has any specific action on the breast. He quotes Drews's statement to the effect that the galactagogue effect of somatose can not be dependent merely upon its sharpening the appetite and raising the nutrition, for after it has been administered for a few days and its use has then been discontinued a falling off is observed in both the quantity and the quality of the milk, although the appetite and the nutrition still remain excellent. Joachim says that his experiments do not bear out this statement; on the contrary, he has observed a good effect on lactation only in cases in which the appetite was improved and the patient's general condition made better. In women whose general health is not benefited by the use of the preparation he has found that the mammary secretion remained unaffected. Consequently, he says, the galactagogue action is not to be expected in all cases; in the majority, however, it is, for in most instances somatose influences the general condition in an extraordinarily favorable way. He thinks it would be interesting to ascertain if the administration of somatose during the last few months of gestation would increase the secretion of milk on the birth of the child.

MINOR PARAGRAPHS.

CARBOLIC-ACID GANGRENE.

HONSELL (*Beiträge zur klinische Chirurgie,* xix, 9; *Centralblatt für Chirurgie,* March 5, 1898) estimates from Levai's data and from observations made on out-patients of the Tübingen clinic that one case of carbolic-acid gangrene occurs in every thousand surgical patients. In literature he finds forty-three examples sufficiently described; in thirty of them the strength of the solution was from one to five per cent. It can not be made out that women and children are particularly predisposed to the gangrene. In the great majority of instances the fingers and toes are affected. The author has experimented on animals, using also sulphuric acid, acetic acid, and caustic potash for the sake of comparison. In opposition to Frankenburger, he holds that the thromboses found are not the cause of the gangrene, but only an accompaniment. As compared with that due to the other caustics mentioned, there is nothing specific in the gangrene induced by carbolic acid; it acts, he thinks, by giving rise to excessive transudation into the subcutaneous cellular tissue, and so choking the circulation, especially in the fingers. In common with other authors, Honsell thinks the most effective prophylactic would be to restrict the sale of carbolic acid. Hofmeister, commenting upon Honsell's article, remarks that in his opinion the author has lost sight of the important fact that the anæsthetic effect of the acid blinds people to the risk they run in handling it.

DISLOCATION OF THE SESAMOID BONE OF THE FOREFINGER.

The existence of such a bone is quite uncommon, and displacement of it must be exceedingly rare. An instance is recorded by H. Steudel in the *Centralblatt für Chirurgie* for March 12th. A working man, twenty-three years old, fell into a cellar about twelve feet deep on the 7th of November. His left hand was held out forward, but all the fingers except the index were closed. On the following day, according to the man's statement, the finger was inclined toward the thumb. Cold applications were employed for several days, and then a plaster-of-Paris bandage was applied. In the course of six weeks this was renewed a number of times, and then a five weeks' course of massage was resorted to, but the mobility of the finger was not restored. On the 5th of February the man was admitted into the Hanover Convalescent House, when it was found that the range of motion, active or passive, at the metacarpo-phalangeal joint was only from 20° to 30°. There was thickening about the volar aspect of the joint, and on its dorsal aspect there was a cleft leading into the joint. The lateral mobility of the finger was very free, as is usual with working men. At first the diagnosis of fracture of the head of the second metacarpal bone was made, but an examination with the Röntgen rays showed that, while this was correct, the cavity of the joint had the sesamoid bone lodged in it. A similar sesamoid bone was shown to exist on the right side. It is to be inferred from the account that the bone was excised, although it is not so stated. The author adds that the prognosis is not particularly good as regards the restoration of normal mobility, for the head of the metacarpal bone, being fractured into the joint, will no longer present a smooth articular surface.

SPONTANEOUS TORSION OF THE SPERMATIC CORD.

This occurrence seems to be something more than a mere curiosity, for in a case recently reported to the Paris Anatomical Society by M. Barozzi (*Gazette hebdomadaire de médecine et de chirurgie,* March 3d) it was mistaken for strangulated hernia. An operation for hernia was undertaken, but, in place of a hernia, there was found a twist in the spermatic cord that had led to gangrene of the testicle, which had to be removed. The testicle was not displaced and the patient had not had gonorrhœa. The cause of the torsion was not ascertained.

ANTIPYRINE AND LACTATION.

M. Fieux (*Revue internationale de médecine et de chirurgie pratiques,* 1897, No. 18; *Centralblatt für Gynäkologie,* February 26, 1898) has been led by numerous observations to the following conclusions: Antipyrine undoubtedly enters the milk. Doses of fifteen grains, given twice in the course of two hours, cause persistence of the drug in the milk for five hours. In from nineteen to twenty-three hours no further trace of it can be found; consequently the maximum time required for its disappearance is eighteen hours. Only a small amount enters the milk; at most, but three quarters of a grain are found in a quart, and that only when at least a drachm of the drug has been taken within sixteen hours. The quality of the milk and the amount of casein and butter contained in it are not affected, and its quantity is not changed. The milk appears to have no injurious effect upon the nursling.

THE PROSTITUTE'S PREHENSILE FOOT.

In the March number of the *Monatshefte für praktische Dermatologie* there is a brief abstract of a study of the morphology of prostitutes, by Jullien, presented at the Geneva congress of criminal anthropology. The author had examined fifty young prostitutes with reference to the presence of the *pes prœhensilis* of Italian observers. In this malformation there is an abnormally wide space between the great toe and its neighbor. In two thirds of the girls examined by the author the average distance between the two toes was more than an inch, and the deformity was commoner on the left side than on the right.

TESTICLE JUICE IN THE TREATMENT OF PSORIASIS.

At a recent meeting of the French Society of Dermatology and Syphilography (*Presse médicale,* February 16th) M. Hallopeau said that in a number of cases of psoriasis he had experimented with subcutaneous injections of testicle juice. With one of the patients, whom he showed, daily injections of seventy-five grains had been continued for about two months and a half. The eruption, which had been very abundant, had receded only very partially; almost everywhere it persisted with all its original features. Ordinary local treatment had given much better results.

HYSTEREXOPEXY.

This procedure—or *exhystéropexie,* as its inventor chooses to call it—was devised by M. Jaboulay and described by M. Peyrolle, in a Lyons thesis, in 1894. At a recent meeting of the Lyons Society of the Medical Sciences (*Gazette hebdomadaire de médecine et de chirurgie,* February 10th) M. Voron presented a uterine fibroma which M. Jaboulay had removed by this method. It was as large as a fœtal head and had been incarcer-

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ated in the true pelvis. The tumor was drawn out through an abdominal incision, its pedicle was tied, and the mass was left for twenty-four hours, at the end of which time it was cut away. Nothing more was to be feared from hæmorrhage, the speaker said, and the pedicle was completely fixed to the abdominal wall.

CHINESE MEDICAL MAXIMS.

Our entertaining young contemporary the Quebec *Revue médicale* gives the following as two Chinese medical maxims: 1. The physician who is sure of his diagnosis says little about it; he who is not sure talks a great deal, but without being understood. 2. The greatest enemy of men's health is woman; the greatest enemy of women's health is man. The *Revue* adds: *N'est-ce pas vrai?* We should say the first one was true, but not the second one.

A NEW JOURNAL OF MEDICAL AND SURGICAL TECHNICS.

We have received the first number of a new quarterly journal entitled *Illustrirte Rundschau der medicinisch-chirurgischen Technik.* As its name implies, it is largely devoted to instruments, apparatus, and procedures. It is edited by Dr. Gustav Beck and published by K. J. Wyss, of Berlin.

THE MATRIMONIAL FORTUNES OF MEDICAL WOMEN.

The *Journal de médecine de Paris* for February 27th records the marriage of Mme. Chellier, the first Algerian woman to obtain the Paris medical diploma, to Dr. Castelli, a physician of the Republican Guard, an officer who by his brilliant conduct in the Madagascar campaign won the cross of the Legion of Honor. If, says our contemporary, medical women do not easily reach lofty stations in practice, they are very apt to marry well. It mentions Dr. Déjerine, Dr. Jacques Bertillon, Dr. Sollier, and Dr. Pillet as having married lady physicians.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 22, 1898:

DISEASES.	Week ending Mar. 15.		Week ending Mar. 22.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	4	3	7	0
Scarlet fever	181	3	195	17
Cerebro-spinal meningitis	0	0	2	1
Measles	369	11	..	..
Diphtheria	183	17	166	28
Croup	12	1	10	4
Tuberculosis	208	107	163	112

The Fourth International Congress of Physiologists will be held in Cambridge, England, from August 23 to 27, 1898, under the presidency of Dr. M. Foster. Gentlemen intending to be present are asked to notify the secretary, Dr. L. E. Shore, Physiological Laboratory, Cambridge, England, *before July 4th*, stating also at the same time the title of any communications they may desire to make. In connection with the congress an exhibition of physiological apparatus will be given. Exhibits may be contributed by members of the congress, by directors of physiological laboratories, and by makers who are recommended by any member or director.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending March 19, 1898:

Small-pox—United States.

Haynesville, Ala	To March 11	400 cases.	
Mobile, Ala	Feb. 5–March 12	22 "	1 death.
Rock Springs, Ala	To March 11	15 "	

Small-pox—Foreign.

Prague, Bohemia	Feb. 12–26	11 cases.	
Cienfuegos, Cuba	Feb. 28–March 6		7 deaths.
Sagua la Grande, Cuba	Feb. 27–March 5	124 "	5 "
Bombay, India	Feb. 1–15		3 "
Calcutta, India	Jan. 22–Feb. 5		5 "
Madras, India	Jan. 29–Feb 11		12 "
Osaka Fu, Japan	Feb 4–22	1 case.	
Tokyo Fu, Japan	Feb. 4–22	2 cases.	
Akita Keu, Japan	Feb. 4–22	9 "	3 "
Awomori Keu, Japan	Feb. 4–22	11 "	1 death.
Fukushima Keu, Japan	Feb. 4–22	27 "	8 deaths.
Gifu Keu, Japan	Feb. 4–22	1 case.	
Gumma Keu, Japan	Feb. 4–22	1 "	
Iwate Keu, Japan	Feb. 4–22	2 cases,	1 death.
Kagoshima Keu, Japan	Feb. 4–22	1 case.	
Miyagi Keu, Japan	Feb. 4–22	15 cases,	4 deaths.
Nagano Keu, Japan	Feb. 4–22	5 "	3 "
Nagasaki Keu, Japan	Feb. 4–22	3 "	1 death.
Okayama Keu, Japan	Feb. 4–22	2 "	1 death.
Yamagata Keu, Japan	Feb. 4–22	3 "	2 deaths.
Yamaguchi Keu, Japan	Feb. 4–22	9 "	
Yehime Keu, Japan	Feb. 4–22	25 "	5 "
The Hokkaido, Japan	Feb. 4–22	70 "	24 "
Formosa, Japan	Feb. 4–22	3 "	
Odessa, Russia	Feb. 19–26	3 "	2 "
Moscow, Russia	Feb. 12–19	2 "	
Riga, Russia	Dec. 1–31		9 deaths.
St. Petersburg, Russia	Feb. 12–26	24 "	5 "
Warsaw, Russia	Feb. 12–19		4 "
Madrid, Spain	Feb. 16–23		1 death.

Cholera—Foreign.

Bombay, India	Feb. 1–15		7 deaths.
Calcutta, India	Jan. 22–Feb. 5		22 "
Madras, India	Jan. 29–Feb. 11		8 "

Yellow Fever—Foreign.

Santos, Brazil	Jan. 22–Feb. 5	5 cases.	
Kingston, Jamaica	Feb. 27–March 5	1 case,	1 death.

Plague—Foreign.

Hong Kong, China	Jan. 15–Feb. 5	9 cases,	7 deaths.
Bombay, India	Feb. 1–15		2,370 deaths.
Formosa, Japan	Feb. 4–22	21 "	

The Jackson County, Missouri, Medical Society.—We learn from the *Kansas City Medical Record* for March that at a meeting held on February 25th Dr. Franklin F Murphy was elected secretary.

The Medical Society of the County ot Tompkins.—Under the auspices of this society, Dr. Cooper Curtice, of Moravia N. Y., will deliver a lecture on Bovine Tuberculosis at the Veterinary College, Ithaca, N. Y., on Wednesday evening, the 30th inst. The discussion will be opened by Dr. James Law, who will deal especially with the protective methods used against the disease. Dr. V. A. Moore will exhibit tuberculin, the new tuberculin of Koch, the tuberculin reaction in guinea-pigs, cultures of the tubercle bacilli, and pathological specimens.

Bellevue Hospital Medical College.—Professor J. P. Crozer-Griffith, of the University of Pennsylvania, lectured, by invitation of the faculty, before the students of the Bellevue Hospital Medical College on March 22d. The subject was Typhoid Fever in Infants and Children.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Obstetrics and Gynæcology, on

Tuesday evening, the 22d inst., Dr. William G. Taylor was to read a paper on The Ætiology, Pathology, Diagnosis, and Treatment of Acute Salpingitis.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 13 to March 19, 1898:*

Bratton, Thomas S., First Lieutenant and Assistant Surgeon. The order assigning him to Fort Leavenworth, Kansas, is revoked, and he is relieved from duty at Fort Niobrara, Nebraska, and ordered to Tybee Island, Georgia, for duty.

Brewer, Madison M., Captain and Assistant Surgeon, is granted leave of absence for one month, on surgeon's certificate of disability, to take effect upon the expiration of the ordinary leave of absence.

Girard, Joseph B., Major and Surgeon, is granted leave of absence for three months, to take effect on or about April 1st.

Ives, Francis J., Captain and Assistant Surgeon, is relieved from duty at St. Francis Barracks, Florida, and ordered to Fort Wingate, New Mexico, to relieve Polhemus, Adrian S., Captain and Assistant Surgeon. Captain Polhemus, on being thus relieved, is ordered to Fort Columbus, New York.

Purviance, William E., Captain and Assistant Surgeon, is relieved from duty at Fort Columbus, New York, and ordered to Fort Morgan, Alabama.

Smith, Allen M., Captain and Assistant Surgeon, will be relieved from duty at Fort Reno, Oklahoma Territory, upon the arrival there of Webber, Henry A., First Lieutenant and Assistant Surgeon, and ordered to Fort Hamilton, New York.

Wilson, James S., First Lieutenant and Assistant Surgeon, is relieved from duty at Fort Clark, Texas, and ordered to Fort Caswell, North Carolina.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending March 19, 1898:*

Dixon, W. S., Medical Inspector. Detached from the Brooklyn and ordered at once to the hospital, Norfolk, for treatment.

Fitzsimons, P., Medical Inspector. Detached from duty as a member of the Board of Inspection and Survey, Washington, D. C., and ordered to the Brooklyn.

Gardner, J. E., Surgeon. Ordered to the Dolphin.

Richards, T. W., Passed Assistant Surgeon. Detached from the New York Navy Yard and ordered to the Machias.

Pigott, M. R., Passed Assistant Surgeon. Detached from the Machias, March 22d, to proceed home, and wait orders.

Society Meetings for the Coming Week:

Monday, *March 28th:* Medical Society of the County of New York; Lawrence, Massachusetts, Medical Club (private); Cambridge, Massachusetts, Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *March 29th:* Boston Society of Medical Sciences (private).

Wednesday, *March 30th:* Auburn, N. Y., City Medical Association; Berkshire, Massachusetts, District Medical Society (Pittsfield).

Friday, *April 1st:* Practitioners' Society of New York (private); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

Saturday, *April 2d:* Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

Answers to Correspondents:

No. 464.—There is no such institution in New York, and the thing can not be done here. It is said to be done in Chicago and in Washington.

No. 465.—As we understand the law, he could see patients in New Jersey only in consultation with physicians living in that State.

Births, Marriages, and Deaths.

Born.

Burns.—In New Orleans, on Saturday, March 19th, to Dr. and Mrs. Frank E. Burns, a daughter.

Potter.—In Rochester, on Tuesday, March 15th, to Dr. and Mrs. E. B. Potter, a son.

Died.

Conkling.—In Brooklyn, on Thursday, March 17th, Dr. John T. Conkling, aged seventy-three years.

Dalbey-Norred.—In Minneapolis, on Saturday, March 19th, Dr. Elizabeth S. Dalbey-Norred, wife of Dr. Charles H. Norred, of the army, in the fifty-sixth year of her age.

Letters to the Editor.

THE CASE OF DR. CLEAVELAND.

57 East Seventy-ninth Street,
New York, *March 21, 1898.*

To the Editor of the New York Medical Journal:

Sir: Allow me to avail myself of your columns to state my connection with this unfortunate medico-legal affair concerning Dr. Cleaveland. First, as to my connection with the affair at all. A personal friend called at my office, bringing an assistant district attorney and Mrs. Carhart with him. After the attorney had stated his wishes, my first words were: "Am I wanted as an expert witness?" His answer was: "Yes." I then said: "An expert witness has the right to decline, has he not?" He said: "Yes; but in the interests of humanity, I hope that you will not." I replied: "I do decline, and on no account will I have anything to do with it." To everything he had to urge I reiterated my refusal with absolute positiveness. After this the mother narrated the case at the suggestion of my personal friend, without giving either names of persons or localities, and asked my opinion upon it. Let it be remembered that until I saw the account in the newspaper I did not know the name of the doctor, or whether he lived in New York or New England. Having declined to serve and supposing that what I now said was merely of a private nature, I expressed myself as nearly as I can remember as follows: "As the facts are represented to me, my first impressions are that there is some causal relation between the size of the dose and some of the symptoms." I have no remembrance of using any such flamboyant expression as has been attributed to me by the press. To my surprise and annoyance, a few days later I was summoned before the grand jury. The substance of my testimony there was that I had no experience that would enable me to give any answer to the question whether the dose mentioned was dangerous. W. P. Northrup, M. D.

A PECULIAR LODGMENT OF A FOREIGN BODY IN THE THROAT.

Detroit, Mich., *March 11, 1898.*

To the Editor of the New York Medical Journal:

Sir: In your issue for February 19th there is a short communication from Dr. Magee on a Peculiar Lodgment of a Fish Bone. This calls to mind a little experience I had some years ago with a patient of mine. She came into the office complaining of having swallowed "a bone or something," and wished me to see if I could get it out, as it "had not gone down." I looked carefully over the pharyngeal walls, back of the tongue, and down the throat as far as I could, and failed to detect anything. I had her wait a few moments, then had her swallow, to see if it had not disappeared. She still insisted it was there, and I looked again, but with no better success than before. I think this was repeated three or four times, but with no result further than that she insisted "it was there," and I being as positive it was not, so far as sight could go. I think I then applied some tannic acid, saturated solution in glycerin, and sent her home, as I fancied that the little redness in the throat was what was deceiving her, making her think a little irritation of the fauces was a veritable bone. She had been gone but a few moments when she returned and was even more positive the "bone was there." On close scrutiny again, I detected a little dark spot on the lower and back third of the tonsil that did not brush off easily; in fact, felt as if it was imbedded in the tonsil. I applied to it a close-biting throat forceps, and to my utter astonishment drew out a piece of woody fibre of about the size of a broom bristle, of dark-brown color, and about an inch and a quarter in length; this had been imbedded to its full length in the tonsillar and pharyngeal walls. I asked her what she had been eating lately, and she said some stuffing of a turkey (I think it was Thanksgiving day afternoon when she was in) with her other food. On closer examination the foreign substance proved to be a piece of sage stalk that had been in the dressing.

This is written to emphasize the lesson to be drawn from Dr. Magee's article—viz., to examine the tonsillar surfaces closely in all cases of supposed bone swallowing before deciding that there is no bone there. I think the tannic acid I applied to the throat must have shrunken the tonsil down to that extent that it allowed the sage to protrude slightly, and this was why my last attempt at finding "the bone" was more successful than my first attempts at it. C. Henri Leonard, M. D.

THE MANHATTAN VACCINATION SHIELD.

114 East Fifty-seventh Street,
New York, *March 19, 1898.*

To the Editor of the New York Medical Journal:

Sir: On reading the priority claim of Mr. Adolph Levy in behalf of Dr. William E. Griffiths, of Brooklyn, regarding my vaccination shield illustrated in a recent number of the *Journal,* I immediately wrote to Dr. Griffiths asking him to kindly inform me as to the date and place of publication of the shield made for him five years ago.

Five days later I received an answer in which Dr. Griffiths, speaking of his device, makes the following statements: "These shields were on sale at Levy's, but he made no attempt to push them by advertising, and, as far as I know, no account of them was sent to any journal. I had forgotten the whole matter."

A device which has never been published, which has never been advertised by the maker, and which had even been forgotten by the originator can hardly claim priority over a similar one devised and published five years later. A. Seibert, M. D.

Book Notices.

Handbuch der Therapie innerer Krankheiten, in sieben Bänden. Herausgegeben von Dr. F. Penzoldt, Professor in Erlangen, und Dr. R. Stintzing, Professor in Jena. Zweite theilweise umgearbeitete Auflage. Fünfte Lieferung. Mit 17 Abbildungen im Text. Sechste Lieferung. Pp. 113 to 624. Jena: Gustav Fischer, 1897.

The favorable opinion which was recently expressed in regard to the first installment of this handbook may be extended to the present one, which contains the conclusion of the second volume and a portion of the third. The same high degree of excellence then remarked is preserved in all the articles and, judging from them, the entire work will compare favorably in every respect with the best of the similar works in the English language. The most prominent feature of the handbook is its practicability—it is a system of practical therapeutics and is eminently suited to the needs of the busy practitioner. This is noticeable in the typography of the book. While the beauty of the page is destroyed by the free use of double leads and of types of various sizes and styles, the selection of that information which may be hurriedly sought for amid a mass of details is materially facilitated.

Part IV begins with the continuation of an exceedingly suggestive chapter by Professor M. Mendelsohn on the general management of cases of disease of the blood. This and the following chapters on the individual blood diseases, by Professor Litten, give special prominence to the hygienic and dietetic treatment of these cases and are rich in practical details.

The chapters on the treatment of diseases of the lymphatic system, by Professor Biedert and Professor Angerer, are conventional and conservative in character. Professor Schönborn discusses the surgical treatment of the spleen, and Professor Bürkner and Professor Eversbusch treat of the treatment of the diseases of the ear and eye which arise in the course of disturbances of the nutrition and blood.

The subject of poisoning, including drug habits, is treated *in extenso* by a number of well-known authorities. The subdivision of the various classes of poisons adopted is very useful for purposes of reference, although frequent repetitions are rendered necessary.

The introductory chapter to the third volume, which deals with the treatment of diseases of the respiratory organs, contains the thoughtful discussion of prophylaxis and general treatment of those diseases which was to be expected from the pen of Professor von Jürgensen, who also contributes the chapter on bronchitis.

A scholarly discussion of the pneumatic and inhalation treatment of lung diseases, with descriptions of various classes of cabinets, is contributed by A. Schmid.

The chapter on the treatment of disease of the nose is contributed by Dr. Kiesselbach, and that on the larynx by Philip Schech.

Street-cleaning and the Disposal of a City's Waste; Methods and Results, and the Effect upon Public Health, Public Morals, and Municipal Prosperity. By George E. Waring, Jr. New York: Doubleday & McClure, 1898. Pp. 230. [Price, $1.25.]

The feelings of appreciation and gratitude with which, as a rule, the citizens of New York regard Colonel Waring will of necessity assure for this work an interested reception. Apart from any sentimental consideration, however, the reader will find in it much of intrinsic value and interest, for it deals with problems which to a lesser or greater degree are pertinent with us all. It is of course a fact that a work such as this must primarily be of value to the sanitarian and the physician, but no person of intelligence can fail to understand what is contained in it, whether his education has been scientific or not, for clearness could not be more clear, and as for technicality there is none. Not only is there recorded here the history of New York's ups and downs of cleanliness, with an ample exposition of the more recent "up" of happy memory which we owe to the author, but the practices and results observed in foreign cities are recorded as well, making the study of a city's sanitation a thoroughly ample and complete one. So far as literary merit is concerned, the work suffers from somewhat of awkwardness which is not entirely due to its being compounded of the work of several writers, but this may be condoned when the subject and its able treatment are considered. Surely this work merits careful and thoughtful consideration.

A Manual of Obstetrics. By A. F. A. King, A. M., M. D., Professor of Obstetrics and Diseases of Women and Children in the Medical Department of the Columbian University, Washington, D. C., and in the University of Vermont, etc. Seventh Edition. With Two Hundred and Twenty-three Illustrations. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. xxiv–25 to 574.

The seventh edition of this useful little book is but little different from the sixth edition. The chapter on puerperal septicæmia has been rewritten, and, as the preface states, "an effort has been made to accentuate the importance of antiseptic midwifery."

To the practitioner or student this work will always prove a valuable assistant. Its compact size and valuable arrangement commend it to all who need to refresh their memories.

Studies in the Psychology of Sex. Volume I. Sexual Inversion. By Havelock Ellis. London: The University Press, 1897. Pp. xvii–204.

This volume is the first of a series of studies in the psychology of sex, and coming from the pen of the editor of the *Contemporary Science Series* and the author of *Man and Woman* and *The Criminal,* it is worthy of careful consideration. We are free to acknowledge, however, that in this case, as in many others, careful consideration is effected more readily than unbiased criticism, and we are forced to admit that, worthy as this work is in many respects, it is with no pleasant sense of information acquired or appreciation of painstaking investigation that we realize the purport of the author's conclusions.

The difficulty, to the average reader, in a work of this kind is to dissociate the moral aspect of the question from that which in itself is purely psychological. We confess to the belief that it sometimes is impossible so to consider such a subject, and, except for the few of absolute discriminating balance, we doubt whether it is wise.

While it may be technically true that "an act does not become criminal because it is disgusting," nevertheless it requires a technical understanding and appreciation of crime—psychologically considered—to realize at times that such is the case. We question, moreover, the advisability of eliminating the offenses of the sexual invert from the category of penal offenses, though in some instances, strictly speaking, injustice may be done to an individual offender.

The work, no doubt, will be liberally received, and in many respects deserves to be, for it is a careful analysis of the subject, replete with illustrative material and, written in an attitude of scientific research, it avoids an assumption of moral superiority so often productive of bias.

BOOKS, ETC., RECEIVED.

Flint's Encyclopædia of Medicine and Surgery. By Various Writers. Arranged upon a New System, which Embodies the Methods of Treatment Employed by Eminent Practitioners of Medicine. Compiled under the Direction of the Publishers, and including the Writings of John Abercrombie, T. D. Ackland, William Anderson, E. Clifford Beale, C. E. Beevor, Henry Trentham Butlin, George W. Callender, James Cantlie, William Carter, John Chiene, J. L. Clark, Sidney Coupland, Harrison Cripps, John Croft, W. Cayley, Edgar Crookshank, David W. Finlay, T. Colcott Fox, J. K. Fowler, William Gay, W. B. Hadden, G. de H. Hall, G. E. Herman, T. W. Hime, T. Holmes, E. O. Hopwood, Leopold Hudson, Jonathan Hutchinson, C. B. Keetley, Percy Kidd, W. Lang, Arthur P. Luff, Robert Maguire, Howard Marsh, Angel Money, Malcolm Morris, J. W. Mott, C. Mansell Moullin, A. T. Myers, Isambard Owen, Herbert W. Page, W. Pasteur, F. G. Penrose, Augustus J. Pepper, J. P. Pick, W. S. Playfair, A. C. Post, J. J. Pringle, George Revington, Frederick T. Roberts, Robert Saundby, Henry Sewill, C. E. Shelley, Heywood Smith, T. Smith, Sir William Stokes, J. Bland Sutton, B. F. Underwood, W. Hale White, Walter Whitehead, Joseph Wiglesworth, and Dawson Williams. Assisted by Frederick F. Eve, G. P. Field, Victor Horsley, Henry Juler, William MacCormac, H. M. Murray, and W. E. Steavenson. Second Revised Edition. J. B. Flint and Company, 1898. Pp. 17 to 1558.

A System of Obstetrics. Based upon a Translation from the French. By Dr. A. Auvard, Accoucheur to the Hospital of Paris. Revised from the Third Edition by John Davis Hartley, M. D. Third Edition. With Five Hundred and Forty-three Illustrations. J. B. Flint and Company, 1898. Pp. 17 to 455.

Fat and Blood: An Essay on the Treatment of Certain Forms of Neurasthenia and Hysteria. By S. Weir Mitchell, M. D., LL. D. Harv., Member of the National Academy of Sciences, etc. Seventh Edition. Philadelphia: J. B. Lippincott Company, 1898. Pp. 9 to 177. [Price, $1.50.]

A Laboratory Guide in Physiology. By Winfield S. Hall, Ph. D., M. D., Professor of Physiology, Northwestern University Medical School, Chicago. With Appendices on Organization and Equipment. Two Colored Plates and Sixty Illustrations. Chicago Medical Book Company, 1898. Pp. 359. [Price, $2.50.]

Die Krankheiten des Magens. Ein Lehrbuch für Aerzte und Studirende. Von Dr. Max Einhorn, Docent an der New York Post-Graduate Medical School, etc. Mit 52 Abbildungen im Text. Berlin: S. Karger, 1898. Pp. xvi–344.

A Digest of Metabolism Experiments in which the Balance of Income and Outgo was Determined. By W. O. Atwater, Ph. D., and C. F. Langworthy, Ph. D. Prepared under the Supervision of A. C. True, Ph. D., Director of the Office of Experiment Stations. United States Department of Agriculture. Bulletin No. 45.

The Ohio State Medical Society. Transactions of the Fifty-second Annual Meeting held in Cleveland, Ohio, May 19, 20, and 21, 1897.

The Present Status of Puerperal Infection. By R. R. Kime, M. D., of Atlanta. [Reprinted from the *Annals of Gynæcology and Pædiatry.*]

Epiphora, or Watery Eye; Lacrymal Abscess; Necrosis of the Bony Walls of the Lacrymal Canal; Implantation of a Glass Ball for the Support of an Artificial Eye; Grattage for the Radical Cure of Granular Lids. By L. Webster Fox, M. D., of Philadelphia. [Reprinted from *International Clinics.*]

Authors and the Journals. By Seth Scott Bishop, M. D., of Chicago. [Reprinted from the *Laryngoscope.*]

Successful Removal of an Enormous Mesenteric Tumor and Nearly Eight Feet of Intestine. By Francis J. Shepherd, M. D., of Montreal. [Reprinted from the *British Medical Journal.*]

Unilateral Hypertrophy. By David M. Greig, C. M., F. R. C. P. Ed. [Reprinted from the *Edinburgh Hospital Reports.*]

Massage of the Abdomen. Important Indications and Contraindications for Massage of the Abdomen, with a Report of Cases showing its Effect upon the Secretion of the Gastric Juice. By Boardman Reed, M. D., of Philadelphia. [Reprinted from the *International Medical Magazine.*]

Personal Observation on Antiseptics and Anæsthetics in Ocular Operations; Perimetry, and Corneal Corpuscular Activity. By Joseph E. Willetts, M. D., of Pittsburgh. [Reprinted from the *Pennsylvania Medical Journal.*]

The Treatment of Chronic Empyema of the Antrum of Highmore by Temporary Osteoplastic Resection of the Anterior Antral Wall. By N. Senn, M. D., of Chicago. [Reprinted from the *Pacific Medical Journal.*]

Proceedings of the Academy of Natural Sciences of Philadelphia. 1897. Part III. October—December.

Pyorrhœa Alveolaris. By William A. Montell, D. D. S. Read before the Maryland State Dental Association, October 11, 1897.

Miscellany.

Acute Dilatation of the Heart occurring in the Course of Cancrum Oris.—In the March number of the *Edinburgh Medical Journal* Dr. Thomas Oliver records the following case: The patient was an apparently healthy girl. Three weeks before her admission to the infirmary, on June 18, 1896, she began to suffer from faceache, which she attributed to a decayed tooth. A day or two subsequently an ulcer formed in the mouth behind the left upper incisor teeth. This was followed by swelling of the cheek and ulceration of its inner surface. The pain continued, and was accompanied by frequent fits of shivering and by a feeling of extreme prostration. When the author first saw her the left cheek was considerably swollen, red, and indurated, and the left half of the upper lip was swollen and protruding. There was a large, brawny swelling below the chin, and the breath was very offensive. The teeth were loose, and the gums were red and ulcerated in places. On the floor of the mouth there was a large ulcer covered with an adherent yellow slough, and there was another on the inside of the cheek opposite the upper canine tooth. This, too, was covered with slough. The heart beat was normal. The temperature on her admission was 102° F. Nourishing liquid foods were prescribed, and the mouth was irrigated with Condy's fluid and subsequently with a boric-acid lotion. On the 21st of June the mouth looked healthier, but the patient complained of cough, greater shortness of breath, and pain in the right chest. Friction sounds were detected over the right base and bronchial râles all over the lungs. Although the mouth seemed better, there was still a considerable quantity of purulent discharge, some of which had evidently trickled backward and down the trachea, setting up a septic bronchitis. On the following day the bronchitis was much worse, and the patient seemed very ill; the pulse was 140 a minute and rather irregular. The area of cardiac dullness had increased, the impulse of the heart was flapping and more diffused than before; the apex beat was felt between the fourth and fifth ribs, half an inch external to the left nipple. The urine was healthy.

For some days after the last note was taken, the patient was too ill for any prolonged examination to be made, but it was noticed that the area of cardiac dullness had rapidly extended, that the apex was beating an inch and a half external to the nipple, and that over this area there was heard for the first time a loud blowing systolic murmur. It was clear that the heart had undergone very acute and rapid dilatation. There was slight enlargement of the area of splenic dullness. On examination of the blood, the red discs were observed to be paler than usual—they formed rouleaux; the white corpuscles were increased in number. One cubic millimetre of blood contained 3,300,000 colored discs, there was one white to two hundred and forty red corpuscles, and there were a few poikilocytes and macrocytes. By degrees the patient's health began to improve, and with that the heart gradually became reduced in size.

On the 6th of July the apex beat of the heart was felt an inch below the left nipple and in a line with it. The mitral systolic murmur was still loud and readily heard.

By the 7th the perforation in the cheek had almost closed; the tissues around the opening were softer, much less indurated, and not nearly so painful to the touch. The cough had, practically speaking, disappeared. The pulse was fifty to the minute, full and regular; the mitral murmur remained unaltered. No râles were detected in the lungs. On the following day it was noted that the apex of the heart was felt beating in the fifth interspace, a quarter of an inch internal to the nipple.

On the 15th the patient was much improved; the apex beat of the heart was half an inch internal to left nipple. A loud blowing mitral systolic murmur was heard over the apex area, but not at the inferior angle of the left scapula. The second sound heard over the pulmonary artery was accentuated.

From this date the patient gradually recovered. Her left upper canine tooth was shed and a sequestrum of bone came away. There was very little deformity, however, although the skin close under the left ala nasi was firmly bound down by tense cicatricial tissue to the bone underneath.

The author says that the principal point of interest in the case is the rapidity with which the heart dilated. When the patient came under observation it was noted that her heart was healthy and its area of percussion normal. In the course of the illness the apex of the heart could be seen getting carried out farther and farther daily, and all at once a mitral systolic murmur developed, and the pulse became rapid and irregular. The heart dilated owing to malnutrition of the myocardium, either from fever or from the poisoned blood, and the mitral systolic murmur that developed was adynamic rather than endocarditic. There was no albuminuria and there was nothing of the nature of heightened arterial tension at any time to explain matters. It is no uncommon circumstance, says the author, to find the heart dilate in fever and become a source of great danger. In the foregoing case there was never any great pyrexia, so it is to the action of toxines in the blood that must be attributed the malnutrition and subsequent dilatation of the heart. As the patient improved under treatment, it was interesting to watch the gradual reduction in the size of the organ and the return of the apex beat to within the nipple line. One of the earliest signs that the heart was dilating was the irregularity and rapidity of the pulse. When the patient was examined several months after her recovery, the mitral systolic murmur could still be heard, but she had gained flesh and was enjoying good health.

A New Clinical Symptom observed in Scarlet Fever.—In the *Presse médicale* for March 5th M. M. P. Meyers states that while he was at the Hôpital de la Porte d'Aubervilliers, in 1897, he observed a clinical symptom which has not been pointed out by authors. He thinks that up to the present time it has passed unnoticed, probably because scarlet fever is studied especially in children, who usually do not give very exact information regarding their sensations.

In the most characteristic cases the author observed a slight paralysis of the extremities; the patient complained of not being able to move the hands or the feet; this, however, was exceptional, and was observed in one case only. More frequently only a numbness of the hands was found, accompanied by a sensation of pricking or tingling. The numbness itself may be absent and only the pricking or tingling sensation may be felt; this is localized in the palmar surface of the ends of the fingers or in the palm of the hand. This symptom is rarer in the feet; it is found in them at the same time that it occurs in the hands, or else separately.

It appears during the eruption, and quite frequently at the same time with it, but exceptionally before it. Its duration is variable; it may be fugacious, lasting only a few minutes, and then disappearing altogether. In the majority of cases it is of longer duration; it appears some hours or a day after the onset of the eruption, and persists for two or three days, usually with interruptions. It may also manifest itself at a later period, on the third, fourth, or fifth day of the eruption. Some patients do not present this symptom until they have occasion to use their hands; others present it on coming out of a cold bath, or when they put their hands in water. The symptom is very constant, the author having met with it in seventy-nine cases out of a hundred in the Hôpital de la Porte d'Aubervilliers. These statistics relate to adults only; among the children it was observed once accidentally in a boy seven years old.

This symptom is not accompanied by any painful manifestations and it may be confounded with the following: 1. The rather frequent itching when the eruption breaks out. 2. The tumefaction of the extremities, which is connected with the eruption, and sometimes impedes the movements of the fingers. 3. The stiffness produced by the scarlatinal rheumatism localized in the articulations of the fingers; in this case, however, it becomes a question of a painful functional trouble of the articulations.

The author thinks there is a symptomatic analogy between this symptom and the numbness and the tingling which are observed on compression of the nerves; thus, some patients connect the sensations they experience, especially if they are unilateral, with a wrong posture in bed.

In cases of abortive scarlatina this symptom may aid in the diagnosis; it may also be of use in the retrospective diagnosis in patients who do not present the eruption and in whom desquamation is fugacious or very late.

M. Meyer states that he has not met with this symptom in other eruptions; that it is absent in the eruptions of influenza, in those of simple or diphtheritic angina, and in toxic or drug erythema, notably in mercurial erythema, in which the diagnosis is quite often doubtful.

The Protecting Rôle of the Lymphatic Ganglion in Certain Infections.—According to M. P. Haan, in the *Normandie médicale* for February 15th (*Indépendance médicale,* March 9th), the rôle of the ganglion in infections comprises two distinct periods: One of collection, in which it acts by protecting the part of the economy to which it belongs by a derivation of the virulent product. But soon after becoming hypertrophied, and having done the work of phagocytosis, it succumbs in its physiological function and becomes a generating element of extreme danger.

This course of events undergoes various forms according to the nature of the infection. The ganglion plays a considerable rôle in syphilis, in which the lymphatic element is shown to be distinctly protective. In epitheliomatous infection, on the other hand, the ganglion assures a relapse, and its speedy destruction is extremely necessary.

After having seen and studied quite a considerable number of cases of scrofulous and tuberculous children who presented ganglionic, microbian, and ulcerated lesions, and having studied the consequences of an extensive destruction, the author is of the opinion that the treatment of these ganglia should never be rapid, rough, or destructive, as it may lead to accidents which are often grave. It should be practised slowly, with the aid of local antisepsis favoring cicatrization and insuring the family of the patient against tuberculous transmission. It is especially advisable to administer tonic antibacterial medicaments according to the tolerance of the patient and in proportion to the strength of the general condition. The permeability of the kidneys should always be watched.

The author has been led to suppose that in the presence of infections of which the ganglia are the centralizing agents, these dispose, perhaps, of a peculiar internal secretion, a sort of leucocytine in an incipient condition, which assured their action in the beginning in certain infections.

Recent German works singularly encourage this point of view. It is proposed to attempt in the laboratory to bring forward this point of the intimate biology of the lymphatic gland in certain infectious pyrexias with cutaneous manifestations.

Newspaper Reporters and the Medical Societies.—The *Atlantic Medical Weekly* for March 5th calls attention in a leading article to the prevailing custom of having newspaper reporters present at the stated meetings of medical societies, especially at those of the Eastern States, and alludes to it as an objectionable feature of medical meetings, and adds that it is undoubtedly the opinion of the majority of the members of the profession that the best interests of medical societies would be served by not allowing reporters to be present.

It is a proverbial saw with the laity, the *Weekly* continues, that the profession can agree upon no single scientific theorem, and in no way can this idea be the better fostered and perpetuated than by allowing the reporters to lay before the public the transactions of the meetings, in their own language and in the spirit which they may have imbibed by their presence. Physicians are all aware of the fact that scientific discussions in medical societies are often characterized by apparently directly opposite views, and while to us the seemingly incompatible views of one practitioner with those of another are easily reconciled, outsiders or the unprofessional man will see them in a far different light, especially when presented in the garb of unprofessional language of the reporter.

One great cause for the seemingly diametric views of the members of the profession lies in the fact that in the discussions of scientific problems the subject under consideration is often discussed in a general and not in a specific way. Were the views expressed by the different participants in the discussion confined to some concrete, well-defined case, they would result oftener in unanimity of opinion.

Another fruitful source of apparent conflict in the meetings, says the writer, is the fact that many of the questions under discussion are at the present time in an unsettled condition. This condition must of necessity always remain so, for not until the last word has been spoken and the subject definitely settled will the conflict cease, and then only to be renewed as some new theory or treatment is originated. Is it necessary or advisable, he asks, that these and other honest differences of opinion among the members of the society or profession, that may seem irreconcilable to the people, be paraded before the reading public? While there may be and often are valuable and instructive papers presented at the meetings, everybody will admit that the true value, the meat of the subject, is only brought out by a free and exhaustive discussion. This statement being true, no barrier should be placed in the way of a free and unrestricted debate upon any scientific subject that may be brought before the meetings.

Tuberculous Poultry as Food.—The writer of a letter published in the *British Medical Journal* for March 5th relates the following incident, which occurred in his family: The cook, when she came to dress the Christmas turkey, thought the liver "looked bad," and put it aside. The bird was cooked and was partaken of by a party of children. The liver was found to be studded all over with tuberculous masses, and afterward this diagnosis was confirmed by microscopical examination. On inquiry the correspondent found that the bird had been reared in one of the home counties, where the firm who sold the turkey bought annually over two thousand turkeys. This, says the writer, is unpleasant, but, he adds, according to the present state of our knowledge, there is not much ground for believing that avian tuberculosis can be transmitted to man by ingestion, although it may occasionally be transmitted to mammals. All our domestic birds (common fowls, turkey, guinea-fowl, peacock, pigeon, pheasant, etc.), he says, are liable to it; indeed, epizoötics may occur in poultry yards and entail serious pecuniary losses. Once a place has been infected the disease becomes enzoötic, and is very difficult to eradicate unless all the birds in the poultry yard are destroyed and the place is thoroughly disinfected. It is easy, he thinks, to understand this feature of the disease. Birds are usually infected through the alimentary canal; when a bird is tuberculous its excreta after a time teem with tubercle bacilli; the soil, straw, food, water, perches, nests, walls, etc., are rapidly soiled with these excreta, and in this way the bacilli may rapidly find their way into the alimentary canal of any number of birds. Even admitting that there is some danger of the disease being communicated to man, it does not seem likely that it would be communicated by ingestion. When a fowl is "cleaned" previous to cooking, the organs usually affected with tuberculous lesions (liver, spleen, intestine, peritonæum) are removed more or less completely. A cook would usually have no difficulty in recognizing that a liver in a marked state of tuberculosis was diseased, and not fit for food. Birds are usually cooked very thoroughly. It is true, the writer says, that occasionally tuberculous livers may have been prepared for food. Moulé has recorded a case in point. In a village where fowl tuberculosis was very prevalent people were in the habit of preparing a paste with livers in an early stage of the disease. They were under the impression that the tuberculous lesions were indications of fatty changes, and, under this impression, they considered that these *foîes gras* were great delicacies, and they partook of them accordingly. Indeed, all *paté de foîe gras* is under suspicion. Still, he continues, admitting the possibility of transmission to man, we must look for danger in another direction. It is evident that the contamination of the soil and various objects with excreta teeming with bacilli will cause the dust raised from an infected place to be loaded with these. It must be remembered also that the avian bacillus is capable of growing rapidly outside the body. It is not an "obligatory" parasite, and can be grown on vegetable substances even at a temperature much below that of the body. It is not killed by drying. So little is known, he says, of the changes to which this bacillus is liable when growing outside of the body that it is not yet possible to say if it is capable of acquiring special virulent properties under these conditions, and whether this dissemination of tuberculous dust constitutes a serious danger to man or some of the domesticated animals. So far there has been no clear evidence of the existence of such a danger.

Infectious Hæmatemesis.—The *Lancet* for March 5th calls attention to the following case, which was published in the *Journal des praticiens* for February 2d by M. Giraudeau: A woman, aged forty-three years, who had never suffered from any gastric symptoms, was suddenly seized with hæmatemesis, the blood vomited amounting to from half to three quarters of a litre, which was followed a few hours later by copious melæna. The same events occurred two days afterward. On the next day she was admitted to hospital so enfeebled that artificial serum had to be injected subcutaneously. A third attack of hæmatemesis and melæna took place on the seventh day. Before the first hæmorrhage occurred the patient had rigors, and when she was admitted her temperature was 104° F.; on the next day it was 104.7° in the morning and 105° in the evening; on the following days it showed great oscillations, reaching or passing 104° in the evening and falling to 102° and later to 100.4° in the morning. There was no tenderness over the stomach; the abdomen was tympanitic. The symtoms did not correspond, therefore, to those of any well-known type of disease. Evidently there was an infectious process. But what? The serum test showed that it was not a case of ambulatory typhoid fever with gastric ulceration. A mitral regurgitant murmur was then heard; there was evidently infectious endocarditis. The *Staphylococcus aureus* was found in the blood and a few days afterward the *Staphylococcus citreus*. Under quinine the patient improved, the temperature oscillating between 100.4° and 102.2°, but on the twenty-fifth day it rose to 103.2° and there was inflammation of the left crural vein. The patient recovered, but the cardiac murmur persisted. The case was, therefore, one of staphylococcic septicæmia with gastric, cardiac, and venous lesions. The patient had been much worried and had endured privations before the attack, which, no doubt, predisposed her to infection. In infectious hæmatemesis, says the writer, blood may be vomited in small quantities and in repeated attacks. A man, aged forty-five years, with a suppurating inguinal bubo, suffered from pyrexia and profuse sweats, and vomited his food every day with little blackish clots; the symptoms ceased only when the bubo was opened. The vomiting of blackish material in surgical septicæmia is not rare. Infectious hæmatemesis may occur in typhoid fever, tuberculosis, syphilis, etc. In fatal cases nothing like the ordinary round ulcer of the stomach is found; the source of the hæmorrhage is a slight erosion often difficult to find; it appears to result from a miliary abscess. In cases which do not yield to medical treatment and in which the condition of the patient permits it, gastrotomy should be performed to arrest the hæmorrhage; but the surgeon should be warned that he must not expect to find an ordinary round ulcer, but this slight erosion for which the search may be long and difficult. The writer states that recently in its Paris correspondence the *Lancet* published an abstract of an important paper on this form of ulceration, by M. Dieulafoy, in which seven cases were mentioned. In two gastrotomy was performed to arrest the hæmorrhage; in one the operation was successful. M. Dieulafoy regards this erosion as an early stage in the formation of the round ulcer. In the latter, also, the French surgeons are now performing gastrotomy to arrest the hæmorrhage when medical treatment fails.

The Disinfection and the Disinfecting Power of the Skin.—According to Roberto Binaghi (*Il Policlinico,* December 1, 1897; *Indépendance médicale,* March 2, 1898), the skin of the human being, as well in a normal as in a pathological condition, presents a bacterial flora composed of schizomycetes, hyphomycetes, and blastomycetes. In the animals experimented on a large majority of the schizomycetes and some of the hyphomycetes were found to be pathogenic, but not the blastomycetes.

Repeated general bathing followed by friction with sterilized cloth of a rough texture constitutes the most practical means of disinfecting the cutaneous surface. In surgery the most energetic antiseptics in use for partial disinfection of the skin are corrosive sublimate, carbolic acid, and potassium permanganate.

Preparation should be made beforehand for the chemical action of these agents by the mechanical disinfection and softening of the superficial horny layers before the removal of the oily matter with ether and alcohol.

The skin of the human being exercises an attenuating and microbicidal action on various pathogenic micro-organisms.

The American Medical Association.—The following is a revised list of the papers that are to be read before the Section in Materia Medica and Therapeutics at the annual meeting, in Denver, on June 7th, 8th, 9th, and 10th: The Aims of Modern Treatment of Tuberculosis, by Dr. Edwin Klebs, of Chicago; The Serum Therapy of Tuberculosis, by Dr. S. O. L. Potter, of San Francisco; The Therapeutics of Pulmonary Phthisis, by Dr. Paul Paquin, of St. Louis; The Practical Value of Artificial Serum in Medical Cases, by Dr. P. C. Remondino, of San Diego, California; The Present Status of Serum Therapy, by Dr. George W. Cox, of Chicago; The Biological Activity of the Antitoxines; by Dr. Joseph McFarland, of Philadelphia; The Glandular Extracts, by Dr. Isaac Ott, of Easton, Pennsylvania; The Use of Remedies in Diseases of the Heart and Blood-vessels, by Dr. T. Lauder Brunton, of London; The Mescal Button, by Dr. D. W. Prentiss; The Modern Intestinal Antiseptics and Astringents, by Dr. William Frankhauser, of New York; A New Non-amylaceous Flour for Diabetics and Dyspeptics, by Dr. N. S. Davis, Jr., of Chicago; The Solution of Ethyl Nitrite, by Dr. D. J. Leech, of Manchester, England; A Contribution to the Effects of Coffee in Excess, by Dr. William Pepper, of Philadelphia; The Treatment of Insomnia, by Dr. Robert T. Edes, of Jamaica Plain, Massachusetts; Are there Therapeutic Principles? by Dr. Solomon Solis-Cohen, of Philadelphia; To what Extent is Typhoid Fever favorably Modified in its Course, Duration, Termination, or Sequelæ by the Administration of Drugs? by Dr. Frank Woodbury, of Philadelphia; Strychnine, by Dr. J. N. Upshur, of Richmond, Virginia; Methods of Teaching Materia Medica and Therapeutics, by Dr. George H. Rohé, of Baltimore; The Study of Materia Medica and Therapeutics, by Dr. H. M. Bracken, of Minneapolis; A Contribution to the Pharmacology of Cannabis Indica, by Mr. C. R. Marshall, of Downing College, Cambridge, England; The Place of Hydrochloric Acid in the Treatment of Diseases of the Stomach, by Dr. Boardman Reed, of Philadelphia; The Continuous Use of Digitalin in the Vasomotor and Cardiac Lesions of Senility, by Dr. Henry Beates, Jr., of Philadelphia; Home Remedies *versus* Patent Medicines, by Dr. Albert Koenig, of Pittsburgh; Opium in Bacterial Diseases, by Dr. J. P. Farnsworth, of Clinton, Iowa; The Great Therapeutic Importance of a Rational Adaptation of Cathartic Remedies to the Physiological Functions of the Gastro-intestinal System, by Dr. E. D. McDaniels, of Mobile; A Recognition of Temperament; A Factor in the Selection of Remedies and their Dosage in Disease, by Dr. J. E. Moses, of Kansas City; On Some Preparations of the National Formulary, by Mr. C. Lewis Diehl, of Louisville; The Use of Stimulants in Acute Diseases, by Dr. E. B. Hershey, of Denver; Codeina, by Dr. A. K. Minich, of Philadelphia; The Therapeutics of Idiopathic Epilepsy, by Dr. J. N. Barnhill, of Columbus, Ohio; The Use of Drugs in Diseases of the Uterus, by Dr. John M. Dunham, of Columbus, Ohio; Why the Pharmacopœial Preparations should be Prescribed and Used by the Profession, by Dr. Leon L. Solomon, of Louisville; The Use of Electricity by the General Practitioner, by Dr. Caleb Brown, of Sac City, Iowa; The Relation of Pharmacal Legislation to Pharmacal Education, by Mr. Willis G. Gregory, of Buffalo; The Uric-acid Diathesis: its Cause, and Maladies resulting from it. Is it a Cause or an Effect of Bright's Disease of the Kidneys? by Dr. H. V. Sweringen, of Fort Wayne, Indiana; The Sulphocarbolates, by Dr. William F. Waugh, of Chicago; Incompatibles, by Dr. E. A. Ruddiman, of Nashville; Fraudulent Claims—The Remedy, by Dr. C. C. Fite, of New York; The Selection of Diuretics and Lithontriptics in Diseases of the Urinary Tract, by Dr. Ernest L. Stephens, of Fort Worth, Texas; The Life History of the Bacillus Tuberculosis in its Relation to the Treatment by Tuberculin, by Dr. Robert Reyburn, of Washington; and The Chemistry of the Albuminates, by Dr. F. E. Stewart, of New York.

The Medical Association of Missouri.—The annual meeting will be held in Excelsior Springs, on May 24th, 25th, and 26th, under the presidency of Dr. Jacob Geiger, of St. Joseph. Besides the president's address, the programme includes the following papers: Pelvic Abscess, by Dr. O. Beverley Campbell, of St. Joseph; Diagnosis in Infantile Diseases, by Dr. O. P. Kernodle, of Sedalia; Delays in Surgery, by Dr. W. B. Sisson, of Kahoka; The Value of the Use of Diphtheritic Antitoxine in the Treatment of Pseudo-membranous Croup, by Dr. L. I. Matthews, of Joplin; Hypnotic Criminality, by Dr. Joseph Taintor, of Warrenton; The Enuresis of Childhood as it Frequently Extends, in its Results, to and even Later than Puberty, by Dr. J. M. Richmond, of St. Joseph; A Report of a Case of Cholecystotomy, by Dr. Francis Reder, of St. Louis; Progress made in the Treatment of Conditions Resulting from Microbic Infection, by Dr. J. T. Marsh, of Liberty; Some Remarks on a Recent Epidemic of Typhoid Fever, by Dr. H. H. Vinke, of St. Charles; Venesection in the Treatment of Disease, by Dr. P. S. Fulkerson, of Lexington; Broncho-pneumonia, by Dr. J. D. Brummall, of Salisbury; Nasopharyngeal Catarrh and its Treatment by the General Practitioner, by Dr. S. S. Davis, of Fulton; State Medicine, by Dr. J. M. Allen, of Liberty; Three Cases of Hysterical Vomiting, by Dr. Jerome K. Bauduy, of St. Louis; Osteomyelitis, by Dr. T. E. Potter, of St. Joseph; Occlusion of the Posterior Nares (Bony)—Two Cases, by Dr. J. Rule Fritts, of Mexico; Personal Experience in the Treatment of Uterine Fibroids, by Dr. Walter B. Dorsett, of St. Louis; A Case of Extra-uterine Pregnancy operated in at the Eighth Month—Recovery, by Dr. H. C. Dalton, of St. Louis; Does Missouri need a Home for Epileptics? by Dr. George R. Highsmith, of Carrollton; Quinine Blindness—The Amaurotic Form of Tabes—Hydrophthalmos—Report of Cases, by Dr. James Moores Ball, of St. Louis; The Way to Determine the Qualifications of Matriculates in our Medical Schools, by Dr. W. Francis Mitchell, of Lancaster; A Rapid Treatment of Chancroid and Syphilitic Ulcerative Lesions, by Dr. A. H. Ohmann-Dumesnil, of St. Louis; Physiological and Pathological Intemperance, by Dr. Edward E. Parrish, of Memphis; Spina Bifida and its Treatment, by Dr. T. F. Prewitt, of St. Louis; Some Phases of Intestinal Obstruction, by Dr. A. H. Cordier, of Kansas City; A Report of the Committee on the Progress in Obstetrics, by Dr. B. M. Hypes, of St. Louis; A Report of the Committee on the Progress in Gynæcology, by Dr. George F. Hulbert, of St. Louis; The Progress of Phthisical Processes in the Lungs by Way of Bronchi, by Dr. William Ophuls, of Columbia; A Report of the Committee on the Progress in Pædiatrics, by Dr. I. N. Love, of St. Louis; A Report of the Committee on the Progress in Surgery, by Dr. Andrew L. Fulton, of Kansas City; Asexualization as a Preventive of Pauperism and Crime, by Dr. R. S. Kelso, of Joplin; The Treatment of Chronic Hypertrophic Tonsillitis, in the Light of Modern Theories of Infection through the Tonsil, by Dr. Hanau W. Loeb, of St. Louis; A Report of Two Cases of Intracranial Aneurysm, by Dr. J. D. Griffith, of Kansas City; A Report of a Case of Castration for Enlarged Prostate, followed One Year Later by Prostatectomy; with presentation of patient, by Dr. C. M. Nicholson, of St. Louis; Fat Embolism, with a Report of a Case, by Dr. T. B. Ellis, of Bethany; Stricture of the Œsophagus, by Dr. Paul Paquin, of St. Louis; When to do Colpohysterectomy, and Methods, by Dr. Milo Buel Ward, of Kansas City; Surgical Anatomy of the Ankle Joint, by Dr. Herman E. Pearse, of Kansas City; The Effects of Osteopathy upon the Patient, and upon the Business of Reputable Physicians, by Dr. Whitley G. Hendrix, of New London; How to Give Prompt and Permanent Relief in Prostatic Obstruction, by Dr. George Wiley Broome, of St. Louis; A Plea for Early Operation in Cholelithiasis, by Dr. A. H. Meisenbach, of St. Louis; Facial Erysipelas; its Treatment, by Dr. Z. T. Martin, of Lathrop; Treatment of Hæmorrhoids by the Clamp and Cautery Method, by Dr. S. G. Gant, of Kansas City; The Application of Protargol in Ophthalmic Surgery, by Dr. B. E. Fryer, of Kansas City; Typhoid Fever, by Dr. Robert E. Sevier, of Liberty; Traumatic Injuries of the Urethra, by Dr. J. W. Holliday, of Tarkio; Electrotherapeutics, by Dr. Brummell Jones, of Kansas City; Pneumonia, by Dr. Tinsley Brown, of Hamilton; Can Cancer of the Uterus be Cured? by Dr. Emory Lanphear, of St. Louis; and Injuries Produced by Bicycle Saddles and their Rational Remedy, by Dr. John L. Short, of Rolla.

The Suicide of a Medical Woman is recorded in *Lyon médical* for March 6th. She was Mlle. Elcueff, twenty-six years old, one of the externes of the Paris hospitals. She was prompted to end her life by remorse over her self-alleged neglect in the case of an immature infant that died of athrepsia, as the post-mortem showed, instead of burns from the heating appliances employed to revive it, as she supposed.

Women in the University of Berlin.—We learn from *Lyon médical* for March 6th that there are 162 women students in the university, three in the school of theology, three in that of law, one in that of medicine, and all the others in that of philosophy. Ninety-eight of them are German, twenty-six are American, twenty-three are Russian, four are Austrian, four are English, two are French, one is Finnish, one is Swiss, one is Dutch, one is Bulgarian, and one is Hungarian.

The Diagnosis of Gonorrhœa.—The *Lancet* for March 5th speaks of a recent case in court in which this question came up. It was a petition by a wife for a decree *nisi* for a divorce on the ground of adultery and cruelty. The husband answered denying the allegations, but the case was originally taken as undefended and a decree *nisi* pronounced. A rehearing was granted on the ground of surprise, and the evidence was now taken *de novo*.

On behalf of the petitioner the adultery and cruelty were sought to be proved by calling two medical men who had attended the parties and who pronounced both to be suffering from gonorrhœa. Mr. Purdie, who was the first practitioner consulted by the husband, stated that he had been suffering at least ten days when he came to him. He had no doubt that it was gonorrhœa, though he did not use a microscope. He agreed that the true character of the disease could only be determined microscopically, but the existence of a microbe had not been distinctly proved and experts were divided in opinion with regard to it. In cross-examination he said that urethritis was an inflammation of the urethra the treatment for which was the same as for gonorrhœa. It might be induced by connection with a woman who was not cleanly or who was suffering from leucorrhœa. The use of the microscope was the only mode of distinguishing between the two diseases.

Mr. Claremont, who examined the respondent some days after Mr. Purdie, said that he was then suffering from gonorrhœa in an acute stage. The witness had no doubt it was caused by contagion. When the witness told the respondent that he was suffering from gonorrhœa he denied it. Cross-examined, he said that the question of the origin of gonorrhœa *de novo* was quite unsettled. It was more contagious than simple urethritis. The latter frequently arose from contact with a woman suffering from leucorrhœa. The symptoms of urethritis and those of gonorrhœa were more or less the same. Except for the amount of the inflammation and the amount of the discharge, there was no external difference.

The respondent, a man aged sixty-five years, denied on oath the adultery and stated that he became unwell a few days after having had connection with his wife. The petitioner was sixty-three years of age, and during the whole time of his married life (a few months) he had had intercourse with her on two occasions only, and his illness followed directly afterward. He did not suspect his wife's chastity, but he believed that without having the gonorrhœa she gave him the disease from which he suffered. Medical evidence was then called to disprove the allegation that the respondent was suffering from gonorrhœa.

Dr. W. A. Dingle said that from the appearances of a patient, as well as by going into the history of the case, it might be possible in ordinary cases to say whether he was suffering from gonorrhœa, but there was no absolute certainty without microscopical examination. The microscope would show whether or not the microbe of gonorrhœa was present. Urethritis might be produced by having connection with a woman suffering from leucorrhœa. He believed also that the simple act of connection in an old man who had not had sexual intercourse for some years and who had taken nourishing food prior to so having connection might produce urethritis.

Mr. de Méric, surgeon to the French Hospital, deposed that he treated about a hundred patients a week for gonorrhœa. He did not think that any medical man could speak with certainty as to the existence of gonorrhœa without microscopical examination to discover the presence of the bacillus of the disease. Leucorrhœa in women would set up urethritis in men, the symptoms of which were similar to those of gonorrhœa.

The president asked what the difference was between the symptoms of the two diseases.

Mr. de Méric said that in gonorrhœa there was much more inflammation and discharge and it was much thicker. In urethritis the discharge was much less thick, and it was not colored green and yellow as in gonorrhœa. He saw the respondent after he was cured and from his replies he came to the conclusion that he had not suffered from gonorrhœa.

The president, in giving judgment, said it was necessary for the petitioner to make out that the disease from which she and the respondent suffered was of a venereal character. The evidence which had been given did not show conclusively that the disease from which the respondent suffered was gonorrhœa. Without wishing to blame Mr. Claremont, he regretted that he had not taken steps to ascertain more clearly that the respondent was suffering from gonorrhœa, although of course at that time no one thought the determination of the question of vital importance; the conduct of the respondent was, moreover, inconsistent with that of a guilty man. He dismissed the petition with costs against the wife, she having separate estate.

General and Local Anæsthesia in Laryngology and Rhinology.—General anæsthesia in intranasal operations, says Dr. Joseph S. Gibb, of Philadelphia (*Journal of the American Medical Association,* March 5, 1898), is but a sorry substitute for local anæsthesia, and should be employed only when the necessities of the case urgently demand it.

We are obliged, at times, he says, to meet the wishes and desires of patients, some of whom prefer general anæsthesia because the operation can be done without their consciousness. At the same time it seems to him folly to undertake such operations merely to please the patient unless we are reasonably sure we understand beforehand every necessity of the case.

The larger number of intranasal operations being best undertaken under local anæsthesia, we must decide which of the few local anæsthetics will serve our purposes best, and the manner of its use.

Cocaine has held undisputed sway as a local anæsthetic for about fifteen years and, in the main, leaves little to be desired. Those who have used it freely, however, have now and then observed effects which have given rise to anxiety, and a few fatal cases have been reported from its use.

It has always been a matter of doubt to him in these cases of cocaine poisoning as to the part played by the shock of the operation. A nervous woman, he says, cuts her finger and faints at the sight of blood; this same woman should certainly be expected to faint during an operation on her sæptum. He believes that some of the cases which have been regarded as cocaine poisoning are of this nature. A very few can not be explained in this manner and we are forced to admit that in some subjects an idiosyncrasy exists to the drug.

More recently, eucaine has been extolled as the equal of cocaine in anæsthetic power, and, it is asserted, possesses no such tendency as the latter drug to produce intoxication.

Our experience with this new anæsthetic is necessarily too limited to assert positively as to the latter statement. There is no doubt in the writer's mind as to the validity of the former.

In an article published in the *Philadelphia Polyclinic* for January 23, 1897, the author gave an experience of six months' use of this drug in the clinics of the Episcopal and Polyclinic Hospitals. It was found to have equal anæsthetic power with cocaine, as to both intensity and duration of anæsthesia in the larger number of cases.

Its power to reduce engorged turbinates was also equal to that of cocaine. In the pharynx, while it possesses equal anæsthetic power to that of cocaine, it does not produce those unpleasant suffocative, choking sensations which the latter drug at times induces. It is, therefore, much pleasanter in its effects in this locality. In no case were any symptoms approaching intoxication observed.

These results have been confirmed by a riper experience. Eucaine is now used at the author's clinics in all operations in the nares, nasopharynx, and pharynx, except in those few instances in which cocaine seems to have a better effect.

Its use in the larynx has been abandoned because cocaine has equal anæsthetic power and is slightly less irritating and hence less apt to produce annoying and troublesome spasms.

The pleasantest manner of obtaining anæsthesia in the nasal chambers, says the author, is as follows: First spray both chambers with a two-per-cent. solution of whichever anæsthetic is chosen, to obtain tolerance for the harsher methods to follow. After waiting for a minute, saturate a small pledget of cotton with a four to ten-per-cent. solution of the drug and allow it to lie at the site of operation for from five to eight minutes.

Nearly all the operations the laryngologist is called upon to perform in the pharynx can be accomplished under local anæsthesia. Eucaine is to be recommended in this locality. It causes less discomfort to the patient and it is also probably less likely to give rise to unpleasant general symptoms.

"Sick Benefit" Associations.—In an interesting article entitled Physicians' Financial Problems, by Dr. Julian A. Chase, of Pawtucket, Rhode Island, published in the *Atlantic Medical Weekly* for March 12th, we find the following (substantially): These associations are multiplying with amazing rapidity. The idea is right, the working people who desire the protection are right, but the execution has been faulty. The worst of the condition is that it is the fault of the physicians that the growth has been deformed. Had the medical profession at the first studied the need and directed the growth of the formation, we should have received benefit and had no need, as we now have, of seeking a corrective. The first idea of the formers of these associations was that the economy of them was to come from a wholesale bargain with a physician. They are not to be blamed for these views, but when the plan first came to physicians the bearings should have been studied. It would then have been obvious that full justice to both sides required that the physician should be paid an adequate fee, and in return give an adequate service. It is not necessary here to do more than state that this can never be the case under any kind of contract plan.

These organizations are, so far as the writer knows, all based upon the plan of securing bids from physicians, in a competitive way, and no study or statistics exist which give any idea of the actual figure to which this method has brought the fees. We see occasionally a guess from some source or other, but with no particular information on which to base even that. Until within a short time young and middle-aged men alone were the members of these societies; now women are forming organizations, and many more families are included in the plan. It is obvious that the insurance plan is right. It is obvious that that is the only way in which the working classes can pay their way. It is obvious that any class which does not pay its way, that is, does not pay for its necessities with money, is still in slavery. It is obvious that if physicians furnish any working class with free medical service they simply keep that class in slavery. In so far as we keep them in slavery, we injure them, we injure society, and, lastly, we injure ourselves; but I believe society and the class under consideration are injured more than we are, even.

These views seem a radical departure from the ordinary plans of medical charity which we have been building for so many years.

Any close observer who has watched the course of events for the last few years, particularly as exemplified by the conditions in London and in New York, knows that when the great structure of medical charity is viewed as a whole, and when the good of the people as a whole is considered in relation to it, the structure is a lamentable failure. It is admitted by all that the development has done great good, and admitted by all who are competent to judge that it has done great evil. If you will admit the truth of the arguments advanced, that the working class should be paid a wage which will supply their absolute necessities, and that the care of their sick is one of these necessities, then the practical way in which it might be done can be taken up. It will be well to say again that we need not consider at this stage of our study either the amount of the wages or the fee of physicians, for we need to study first the underlying principles which govern the relationship of the two classes to each other and to society as a whole. It seems as if a neglect of this study might be the cause which led to the present state of affairs. It will probably be admitted by all that only by some system of mutual insurance can the lower working class pay its bills for medical attendance. As an illustration of how it might have been done, let us make a hypothetical case. Suppose a community of several thousand laborers and families and an adequate number of physicians. We will suppose the laborers started the formation of a "sick benefit" society, as has been done so often. We will now suppose the physicians were approached for bids. Let us suppose that the physicians in this community were wise and had a local society, and immediately took the question in hand. They concluded to direct the thing and had the organization formed on mutual insurance lines. Each member paid a given sum yearly, and at the end of the year any balance that remained was distributed by dividend and deducted from next year's monthly assessment, and, if too small, the monthly rate was raised. Each member of the society could call any physician he chose and the bill would be paid by the society. They would, of course, have society visitors appointed to see that there was no fraud or deceit practised. Now, in this community, when a physician was called to a family he was not previously acquainted with he would ask if they were members of the insurance society, and if they were not he would say, I will attend to your immediate needs, but you must join the society if you expect to get the services of any physician, for they will all be notified, and will refuse to attend after this notice to you. It is very obvious that on these lines the whole question would be in the physician's hands. The pauper, if he came to the doctor, would be sent to the city poor department, where he belonged, and the workman would be sent into the insurance organization, where he would be paying his own bills in a self-respecting manner, and would be a better citizen and man.

The Medical College of Virginia.—The chair of diseases of the eye, ear, and throat, made vacant by the death of Professor Charles M. Shields, says the *Medical Register,* will be filled at the annual meeting of the board of visitors of the college on April 21st. All applications, accompanied by credentials, should be forwarded to the dean, Dr. Christopher Tompkins, Richmond.

The Tri-State Medical Society of Iowa, Illinois, and Missouri.—The annual meeting will be held in Dubuque on April 5th and 6th, under the presidency of Dr. Emory Lanphear, of St. Louis. The programme includes the following papers: The president's address—The Surgery of the Chest, by Dr. Emory Lanphear; Nonsurgical Experience with Appendicitis in the Work of a Country Practitioner, by Dr. R. N. Cresap, of Bonaparte, Iowa; Remarks on Intestinal Obstruction, by Dr. Albert H. Cordier, of Kansas City, Missouri; Typhoid Fever, by Dr. George Kissel, of Cresco, Iowa; Typhoid Fever, by Dr. Albert Green, of Rockford, Illinois; Endocarditis, by Dr. William E. Whitney, of Eldora, Iowa; Ulcerative Endocarditis, by Dr. W. W. Peck, of Darlington, Wisconsin; Pancreatic Cysts, with a Report of Two Cases, by Dr. D. C. Brockman, of Ottumwa, Iowa; Quinine Blindness; The Amaurotic Form of Tabes; Hydrophthalmos; with a Report of Cases, by Dr. James Moores Ball, of St. Louis; Retrodisplacements of the Uterus, by Dr. F. A. Dunsmoor, of Minneapolis; Sterility in the Female, by Dr. John W. Kime, of Des Moines, Iowa; Abdominal and Pelvic Tumors without Pedicles, by Dr. C. E. Rush, of Keokuk, Iowa; The Surgery of the Stomach, by Dr. A. C. Bernays, of St. Louis; "Latent" Pleurisy, by Dr. R. P. Berry, of Clermont, Iowa; A Recent Epidemic of Diphtheria, by Dr. Gershom H. Hill, of Independence, Iowa; Suggestive Therapeutics, by Dr. W. P. Hartford, of Cassville, Wisconsin; The Various Uses of the Esmarch Bandage, by Dr. T. J. Maxwell, of Keokuk, Iowa; I had a Dream, by Dr. J. Scott Stevens, of Cedar Falls, Iowa; Carbide of Calcium in the Treatment of Carcinoma of the Cervix Uteri, by Dr. James H. Etheridge, of Chicago; The Surgical Treatment of Empyema, by Dr. Francis Rider, of St. Louis; The Country Practice of To-day, by Dr. C. C. Gratiot, of Shullsburg, Wisconsin; Recent Advances in Serum Therapy, by Dr. Paul Paquin, of St. Louis; The Relations of the Specialist and the Family Physician, by Dr. G. H. Fuller, of Delhi, Iowa; A *Résumé* of My Experience with Internal Urethrotomy, by Dr. G. Frank Lydston, of Chicago; Trauma as a Factor in the Production of Malignant Disease, by Dr. D. S. Fairchild, of Clinton, Iowa; Differential Diagnosis in Injuries of or Contiguous to the Shoulder Girdle, with Special Reference to Unusual Complications attending Dislocations, by Dr. Thomas H. Manley, of New York; How to Treat Fibroids of the Uterus, by Dr. Franklin H. Martin, of Chicago; Curettement in Abortions, by Dr. F. B. Dorsey, of Keokuk, Iowa; The Care of the Buccal and Nasal Cavities and Upper Air-passages, and the Relation of the same to Disease, by Dr. J. B. Brady, of Lamont, Iowa; Clinical Microscopy, by Dr. E. O. Sisson, of Keokuk; Non-surgical Thoughts concerning Goître, by Dr. J. H. Craig, of Volga City, Iowa; The Uses of Hot Water in the Treatment of Intestinal Disorders of Children, by Dr. J. De Witt Graham, of Springville, Iowa; Ectopic Pregnancy, by Dr. L. J. Bowman, of Greeley, Iowa; Malignant Diseases of the Stomach, by Dr. H. C. Temple, of Waucoma, Iowa; Intestinal Antisepsis, by Dr. William F. Waugh, of Chicago; The Symptoms, Prognosis, and Treatment of Pleuritis with Effusion, by Dr. C. R. Pickering, of Muscoda, Wisconsin; Surgery, then Hypnotism, in the Treatment of Masturbation, by Dr. Thomas Bassett Keyes, of Chicago; Endometritis and its Treatment, by Dr. L. L. Renshaw, of Monona, Iowa; Tuberculosis of the Testicle, with the Report of a Case; Operation and Results, by Dr. W. B. Graham, of Waterloo, Iowa; Intestinal Constipation, by Dr. H. C. Markham, of Independence, Iowa; Uræmia, by Dr. Charles K. Flinn, of Postville, Iowa; Influenza and its Nervous Sequelæ, by Dr. N. J. A. Mueller, of Oyersville, Iowa; The Pathology of the Puerperal State, by Dr. George Kissel, of Cresco, Iowa; Injuries from Live Electric-light and Trolley Wires, by Dr. J. J. Brownson, of Dubuque, Iowa; and Chionanthus Virginica, by Dr. J. W. Osborn, of Dyersville, Iowa.

St. Mark's Hospital.—It is announced that a piece of property adjoining the present hospital building, in Second Avenue, has been bought, and that the structure now standing on it will be demolished to make room for an addition to the hospital.

The German Poliklinik.—Last week an excellent performance for the benefit of this institution was given in the Metropolitan Opera House. The house was well filled, and it is to be hoped that the receipts were substantial.

Shall Newborn Babies be Washed?—Schrader (*Berliner klinische Wochenschrift; Klinisch-therapeutische Wochenschrift,* March 5, 1898) has investigated the effects of bathing newborn children, in order to settle the point as to whether the healing of the stump of the cord is influenced by that process. The treatment of the stump was the same in all of the one hundred and fifty cases. It was dressed daily with sterile gauze and dusted with a mixture of one part of salicylic acid and four parts of starch. The healing of the stump and its separation took place in a more satisfactory way in those children who had been bathed. Dry dressings for the stump were found to be much better than oily ones, the fat preventing the proper drying of the cord. The weight of the bathed children increased more rapidly than that of the others, and no cases of eye infection from the water used in bathing the children were noticed.

Typhoid Fever still on the Decline in Philadelphia.—The report of the board of health for the week ending March 19th is as follows: Total number of deaths, 484, an increase of 21 over the preceding week, and a decrease of 59 from the corresponding period of last year. Of this number, 175 were in children under five years of age. The returns also show that typhoid fever is on the rapid decline, for this week there were 57 cases with 12 deaths, against 81 cases with 7 deaths for the week preceding.

Influenza subsiding in Philadelphia.—This disease, which has been quite extensively prevalent in Philadelphia for the past few weeks, shows some signs of abatement. As a rule the type seems to have been mild and the disease mostly confined to the respiratory passages. Many persons have presented themselves at the hospitals giving histories of a previous attack and complaining of indefinite pains in various portions of the body.

Physicians Ready to Enlist.—The Philadelphia Medical Emergency Corps recently adopted the following resolution approved by the mayor:

Whereas, The Philadelphia Medical Emergency Corps has always in the past been ready to meet any and all calls to duty in the interest of the public and humanity, be it therefore

Resolved, That its members, an organized body of physicians and surgeons, hereby tender their services to the national government should the necessity arise for the same.

[Signed.] Thomas H. Andrews, Medical Director;
G. R. Hulsizer, Commander;
William H. Ziegler,
Herman Bergin,
George Sinnamon,
Walter Strong,
R. B. Judge,
Committee.

Tuberculosis of the Hernial Sac.—An additional case of tuberculosis of the sac of a hernia is reported in the *Wiener klinische Wochenschrift* for March 3, 1898, by Dr. Julius Sternberg. The mere pathological fact that tuberculosis of a hernial sac does occur has long been known, but recently there has been a renewed interest in the matter because of its importance in connection with the radical cure of hernia and the fair degree of frequency with which it has lately been found during the performance of that operation. The present literature includes some thirty-five cases, in three of which the diagnosis was made before the operation. The age and sex of the patients are the same as in tuberculosis of the general peritoneal cavity, of which it is often a part, occurring oftenest in children under ten years of age, but also in persons between forty and sixty. The majority of the patients are males, almost three to one. There is frequently tuberculous disease in other organs, the lungs, the pleura, or the joints, and generally there is some involvement of the mesenteric lymph nodes and the intestine, so that the prognosis for a permanent cure is not very encouraging. The anatomical types of the disease are the same as those of general peritoneal tuberculosis, the ascitic, the sacculated, and the dry forms, and the sac may be affected with any of these forms and also contain a loop of gut or omentum or, what is more common, have only a little turbid serum. The intestine at times lies in the sac in matted loops with collections of thick pus between its coils, and occasionally the matted intestines and the sac form a hard, tumorlike mass. Sternberg's own case was in a young woman of twenty-eight who had always been active and healthy until her seventeenth year, when she had pleurisy on the left side, with a very large amount of fluid, and did not ever quite recover from her six months' illness. This pleurisy was in all probability a tuberculous one and, judging from her subsequent history, the infection must have passed through the lymphatics of the diaphragm and thus invaded the peritonæum. Seven years later she acquired inguinal hernia on both sides. She tried to retain the ruptures with a truss, but this caused so much pain that its use was discontinued. At the time of her admission to the hospital there were still signs of pleural thickening at the base of the left lung, but her general physical condition was quite good. On opening the larger of the two hernial sacs about two ounces of clear serum escaped. The sac wall was much thickened and studded with closely set tubercles, the intestine in the sac also had a few scattered tubercles on its surface, and on pulling out other loops they were found to be covered with a few small nodules. The parietal peritonæum was, however, free. The sac of the other side contained only a few tubercles and no serum. The suture wounds on both sides became infected from the tuberculous material and formed very chronic sinuses, closing only at the end of eight months. Soon after the operation there was an evident increase in the activity of the process in the general peritoneal cavity, the abdomen gradually enlarged, and the signs of fluid could easily be made out, but after a summer in the country the patient returned in perfect health, and that was her report a year and a half after the operation.

Striated Muscular Fibres in the Wall of the Uterus.—An interesting addition to our knowledge of the existence of heterotopic fragments of tissue has been published in the *Archiv für pathologische Anatomie und Physiologie und für klinische Medicin* for January, 1898, by Dr. Alexander Nehrkorn. Ever since the suggestion was made by Cohnheim that such displaced germs might account for the origin of the malignant tumors, the pathological world has been on the lookout for evidence that would verify this hypothesis. Very few cases have been reported, and these have been instances of tumors and not of normal tissue. The case under consideration was that of a pregnant woman who had a large tumor of dense inflammatory tissue uniting the uterus with the promontory of the sacrum, following an infection in a previous pregnancy. It was impossible to deliver her *per vias naturales,* so Cæsarean section was performed and the child removed. Death followed from intestinal obstruction. The uterus was found to be much hypertrophied on its posterior wall, where it had been adherent to the sacrum. Sections through this portion showed a very small bundle of striated muscular fibres, the entire thickness of the mass being only about one two-hundredth of an inch. In this minute fragment a number of stages of the development of muscle fibres could be found, from long striated fibres with a sarcolemma and numerous nuclei to a branched fibre with a single nucleus and only partial transverse or longitudinal striations. A similar condition was also found in the case reported by Girode in the *Semaine médicale,* 1892, p. 48.

This specimen was also from a puerperal uterus, and the only difference lay in the fact that the muscle fibres were much more abundant, occupying a third of the thickness of the uterine wall. The histological features were exactly the same. The interpretation of these observations is not so simple as it seems. The two possibilities are a metaplasia, or change of the smooth muscle fibres of the uterine wall into striated fibres, and, on the other hand, a displacement of striated muscle elements into the uterine wall during fœtal life. The displacement theory has many facts on its side, notably the numerous examples of congenital tumors; in the neck the branchial remnants, fatty tumors in the brain substance, the congenital adenomata of the kidney, etc. On the other hand, it is extremely suggestive that both of these cases should have occurred in uteri which had undergone the rapid hyperplasia of pregnancy, that there should have been present in both the various stages of growth, with, too, the degenerative forms of fibres which have been described in the regeneration of ordinary voluntary muscle, and that the striated fibres should have no point of separation from the rest of the uterine wall, but should merge indistinguishably into it. An absolute decision can not be made from so small a number of cases, but the probability is that the explanation rests with the theory of metaplasia.

THE NEW YORK MEDICAL JOURNAL, April 2, 1898.

Original Communications.

A CASE OF ACROMEGALY WITH DIABETES.

By T. L. CHADBOURNE, M. D.,
COLUMBUS, OHIO.

The idea that the not infrequent combination of acromegaly and diabetes is more than accidental seems to be gaining ground, and the following case is reported mainly for the sake of adding another instance of their coincidence. Hansemann [*] thinks it not unlikely that an intimate relation exists between the two diseases, and, although diabetes was stated to have been present in but twelve of the ninety-seven sure cases he was able to find in the literature, these were precisely those most accurately observed. The cases recently reported by H. Brooks [†] and W. Uhthoff [‡] are additional examples.

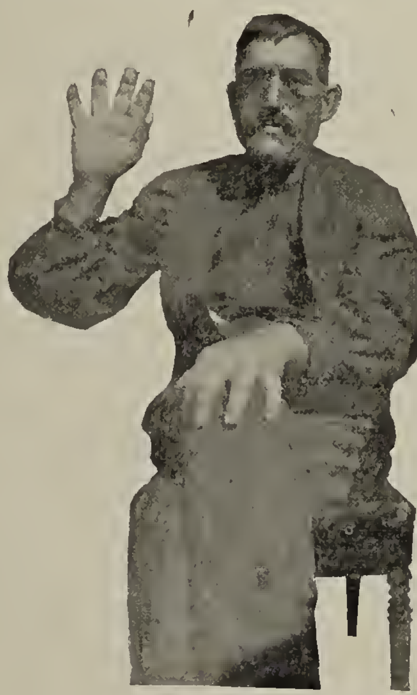
The present case occurred in the practice of Dr. J. P. Whitney, of Vinton, Iowa, to whom I am indebted for the opportunity of examining the patient:

Mr. F., aged forty years, single, born in Benton County, Iowa. Has always been engaged in outdoor work. Parents said not to have been of large size; both lived to advanced age. The patient is the youngest of eight children. Four died of tuberculosis at ages varying from eighteen to twenty-two years. One died as the result of an accident. One brother and one sister are in good health. As an infant the patient was of average size and was well as a child; had measles, whooping-cough, and chicken-pox, but no other infectious diseases. When about nineteen he began to have sick headaches every few weeks. After the patient was twenty-four these began to grow less frequent, and have been absent during the past four years. Occasional nosebleed as a child. As a young man the patient says he was well-proportioned, but at twenty-five he began to grow, gaining an inch in height by the time he was thirty. About the time this growth began he noticed that his hands were getting larger, and that his jaw was increasing in size. Four years ago his appetite became much larger, and he began to have inordinate thirst, passing large amounts of urine. These symptoms, together with itching of the skin, have persisted until the present time. During this time he has lost seventy-nine pounds in weight. The patient complains that his eyesight is failing.

The urine is pale; specific gravity, 1.036; gives prompt reaction for sugar with the ordinary tests.

Status.—A very large man; height, six feet three lines; weight, two hundred and eleven pounds. Bony framework very large; forearms and hands are especially striking. Striking prognathism; the right half of the jaw looks larger than the left. The teeth are slightly separated upon the lower jaw. When the jaws are closed the lower teeth are about a fourth of an inch in front of the upper ones. The nose is large and long, but does not look strikingly broad. The cheek bones are very prominent, giving a curiously sunken look to that part of the face between them and the long lower jaw. The muscles are soft. The skin is dry; large varices on the legs. Tongue is very large. The thyreoid not enlarged. The thorax is very large; the left half looks slightly larger than the right; of average length, rather flat above. The epigastric angle is about a right angle; the spine is straight. The lung borders are normal; everywhere loud and deep resonance. Auscultation of lungs negative. The apex beat is in the fifth intercostal space, in midclavicular line; rather faint impulse. Dullness not enlarged; tones pure, 84, regular.

The following measurements were taken: Circumference of head, an inch above eyebrows, 24 inches; circumference, mento-vertex (greatest), 30 inches; right ramus, condyle to symphysis, 15 inches; from antitragus to ala nasi (right), 4¾ inches; from antitragus to ala nasi (left), 5¼ inches; the chest (nipple line) measures 43, 44, and 44½ inches in expiration, at rest, and in inspiration respectively; right clavicle, 9 inches.



The hands are of about equal size; the following figures are for the right: Metacarpo-phalangeal articulation to tip: Index finger (length), 3¾ inches; middle finger (length), 4¼ inches; ring finger (length), 4 inches; little finger (length), 3¼ inches; index finger (greatest circumference), 4 inches; middle finger (greatest circumference), 4¼ inches; ring finger (greatest circumference), 3¾ inches; little finger (greatest circumference), 3¼ inches; thumb (greatest circumference), 4¼ inches; styloid to tip of index, 8¼ inches; width, metacarpals, 5¼ inches; "glove measure," 11 inches; circumference of wrist joint behind styloid, 8¼ inches; olecranon to styloid, 12 inches.

The right foot is somewhat larger than the left and measures as follows: Length, heel to great toe, 11½ inches; circumference at ball, 12 inches; circumference at instep, 13¼ inches; circumference of ankle just above malleolus, 12¾ inches; circumference of ankle four inches above malleolus, 11½ inches; circumference of calf (greatest), 16¾ inches; circumference of thighs, 50 inches.

It is greatly to be regretted that the very brief period of the patient's stay in town made a more thorough examination, especially that of the eye grounds, impossible.

239 East Town Street, *November 12, 1897.*

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[*] *Berlin. klin. Wochen.*, No. 20, 1897.

[†] *New York Medical Journal*, March 27, 1897.

[‡] *Berlin. klin. Wochen.*, No 22, 1897.

THE PITUITARY GLAND AS A FACTOR IN ACROMEGALY AND GIANTISM.

By WOODS HUTCHINSON, A. M., M. D.,
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(*Continued from page 344.*)

Now let us see if we can group together the well-nigh innumerable hypertrophies of this disease in one regional or developmental class. The first thing that strikes us about them is that a large majority of them are found either somewhere near the anterior median line of the body or in the arches or structures which connect with that region of our anatomy. Not only this, but in the arches, either maxillary or thoracic, the most marked changes will be found at those parts of them which are nearest to this anterior median line, as, for instance, in the ribs and clavicles. In fact, if we were to bring the hands and feet together in the median line in the familiar "crusader" attitude of the mediæval tombs, and were then to draw two lines three inches on each side of the median line from brow to toes, we should find that we had included something like ninety per cent. of all the changes which occur in this disease. In the adult body this could be regarded as nothing more than a regional coincidence; but when we come to look at these facts in the light of embryonic history it seems to me that the relation becomes full of meaning and suggestion. As is well known, the entire vertebrate body, from a developmental standpoint, is to be regarded as made up of a central column with a series of usually small and complete dorsal arches above it and usually larger and incomplete ventral arches below it. A familiar illustration would be a typical dorsal vertebra with its pedicles, laminæ, and spine above, forming the small neural arch, and its transverse processes and pair of ribs, which with their corresponding segment of sternum form the ventral arch; and upon a modification of this principle every portion of the body, from the vertex to the coccyx, will be found to be constructed. The first part of this to form is the series of dorsal arches, which begin as the familiar medullary groove, expanding anteriorly into cerebral vesicles and brain and tapering posteriorly into the filum terminale. Then appears the central column, running from the body of the sphenoid to that of the last coccygeal vertebra. The posterior arches grow up and close rapidly, forming by their linear succession the spinal canal, and expanding at their cephalic extremity into the capacious brain case. The ventral arches, on the other hand, starting from the sides of the central column, are much slower in their development, so that it is not until a much later stage of our early embryonic development that their slowly growing crescents succeed in meeting each other in the median line and completing the anterior wall of the body from the brows to the pubes. The lateness and, so to speak, difficulty of this completion are well shown by the frequency with which we may have a failure of union at some point in this median line, ranging from the rare frontal meningocele at the glabella to the extremely common harelip or umbilical hernia. Scarcely an inch of this line, with the exception of the symphysis of the lower jaw, con be mentioned which does not occasionally show a gap on account of the failure of the tips of the particular segmental crescents to meet in the median line. Fissure of the sternum, epigastric pulmonary hernia, exstrophy of the bladder, and absence of the os pubis need only to be mentioned in illustration. So that we would appear to be justified in the statement that the point of overgrowth, thickening, and greatest disturbance in acromegaly is that point at which the growth of the body was latest in completing itself, at the tips of the segmental crescents of a linear succession of which the body is composed. Thus, from an embryonic standpoint, the term "acromegaly" would appear to literally apply to the changes in the trunk as well as those in what are usually described as the extremities.

The force of this analogy is, of course, obvious so far as the trunk itself is concerned, and also as applied to the lower jaw; but exception will probably be taken at once to the application of any such line of reasoning to the changes in the upper part of the face generally, upper jaw, nose, and forehead, on the one hand, and also to those of the hands and feet on the other. But this difficulty is only an apparent one, for the only theory of the development of the skull which will bring it into harmony with that of the rest of the body, and also with the principle of development of the anterior portion of the body in invertebrates, consists in regarding the entire facial portion of it as composed of a series of these same ventral arches which so obviously enter into the structure of the trunk. We have the central column ending at the body of the sphenoid, and given off directly from that body in a ventral direction we have first of all the lesser wings, which, with the horizontal plate of the frontal, form the roof of the orbit and the superciliary ridges—the first facial arch. Next we have, also given off from the body of the sphenoid, and separated from it by a slit for the transmission of nerves, after the fashion of an intervertebral foramen in the spine, the greater wings which with the assistance of the malar bone form the outer wall and lower border of the orbital cavities—the second facial arch. Below and posterior to these are given off the descending or pterygoid processes, which by their articulation through the palate bone with the tuberosities of the superior maxilla form the basal part of the great maxillary arch—the third facial. Further back we have the basilar process of the occipital with its great lateral bars, the petrous portions of the temporal bone, from the extremity of which again are hung the pillars of the great movable mandibular arch. A little internal to this last point on the under surface of the temporal descends the long styloid process, from the tips of which are again supported the pillars of the next visceral arch, the hyoid. Thus we think the entire region of the face and neck can be shown with reasonable probability to be made up of a series of the same sort of ventral arches which further down the column come to form the ribs and sternum, and the point of overgrowth is again at the point where the growth of the arch was last completed.

Now let us look for a moment at the other hypertrophies which are neither of the face, trunk, or neck—those of the shoulder girdle, hands, and arms. Just what the exact developmental relation of these appendages is, is not definitely settled; but the most probable theory given yet, in spite of many serious objections which may be urged against it, seems to be that of Owen, which is that the shoulder girdle is the ventral arch of one of the occipital segments, while the arms and hands are the fused arches of the lower cervical segments. The singular uniformity with which five appears as the primitive number of digits, in all vertebrates above fishes, and the equally striking regularity with which five spinal nerves or their equivalents enter into the brachial plexus, go far at least to suggest the correctness of some such theory of origin of these appendages. That the arches in this case, with the exception of the first, should fail to unite is in no way against the theory, for that is, of course, the rule in the (upon this theory) analogous structures in the higher invertebrates, such as the crustacea and insecta. In the lobster, for instance, the jaws, instead of forming a single complete arch, are still in two pieces and open laterally at the symphysis, upon the median aspects of which the teeth are borne. So that we find the overgrowth to be in precisely the same portion of the ventral arches, the tips of the crescents—viz., the inner ends of the clavicles, the upper part of the scapulæ, the first piece of the breast bone, and in the free extremities at the points which, if we might use the expression, if they had united, would have entered into the formation of the median line. Moreover, the fact that they have not united would probably go far to explain the much more extensive actual overgrowth which occurs in this situation, and which, as we shall see in our consideration of the changes in gigantism, cut such an extremely important figure in the changes in the body stature.

The same principle of explanation will apply to the formation of the pelvic arch and its appendages, except that a larger number of ventral arches appear to enter into the formation of the much more solid girdle—the number of the digits and of the spinal nerves supplying the limbs being, of course, the same. That some such slipping down and concentrating process has actually taken place in this region to form the girdle is shown by the fact that the height of attachment of the iliac bones to the central column varies very considerably between the higher anthropoids and man; and not only that, but may vary considerably within the limits of the human species, and even occur at different levels upon the two sides in the same individual.

I should now like to call your attention to the situation and nature of the changes most commonly found in that other derangement of growth and nutrition known as gigantism. I am well aware that many weighty authorities have emphatically protested against the assumption of any similarity between these two processes, and even gone so far as to declare that one of them is a normal and the other an abnormal one. When, however, we come to actually study not merely the position and character of the overgrowths, but also the mental and vital symptoms which are present in most cases of giantism, we can, I think, scarcely fail to be struck with the strong similarity that exists between them. As long ago as 1889 the great Virchow called attention to the fact that the earlier stages in certain cases of acromegaly resulted in a condition extremely similar to that in some giants, although he was not inclined to recognize any kinship between the two processes. In the first place the chief stress is usually laid by those who deny this relationship upon the fact, as they express it, that the changes in giantism produce a symmetrical overgrowth of the entire body instead of the often grotesque disproportions which result in acromegaly. But as soon as we come to examine the measurements of the unfortunately all too few cases of giantism which have been made and recorded by some competent authority, we find little or no support for this alleged difference. In the first place, nearly all accounts which are worthy of credence, or written in anything approaching a critical spirit, comment upon the fact of the huge and often utterly disproportionate length of the arms and legs in giants. In fact, we think it would be safe to say that nearly two thirds of their excess of height will be found to depend upon the disproportionate length of the lower limb. For instance, in the case of the giantess Lady Aama, reported by the writer, whose height was six feet seven and three quarter inches, the excess of the length of the lower limb from the sole to the top of the great trochanter over that of the average female of her race and age was no less than twelve inches and a half, or nearly three quarters of the total excess of her height above the average. Topinard declares that a large proportion of the excessive stature in giants and of deficiency in dwarfs consists of lengthening and shortening respectively in the limbs, the proportions of the trunk and cranium remaining singularly close to the normal standard in both. A dwarf always looks a good deal more than his height when sitting down; a giant always looks a good deal less than his in the same position. This elongation is not merely anatomical, but also, so to speak, functional, for Langer tells us that evidence of knock-knee is seldom wanting in giants, and is often present in a very high degree. A similar though less striking overgrowth is also to be observed in the upper extremities. Most authorities would admit these facts, but the opponents of our theory again take their stand upon the fact that in many cases neither the hands nor the feet are increased to a length beyond the proper proportions of the normal stature. To this, however, it must promptly be replied that it is hardly fair to expect that where the overgrowth is, so to speak, uniformly distributed throughout the entire length of the limb and contributes to the increase of the stature, the last segment would show the same marked disproportion which is present when the overgrowth is, so to speak, confined largely to it, and does not extend to the stature.

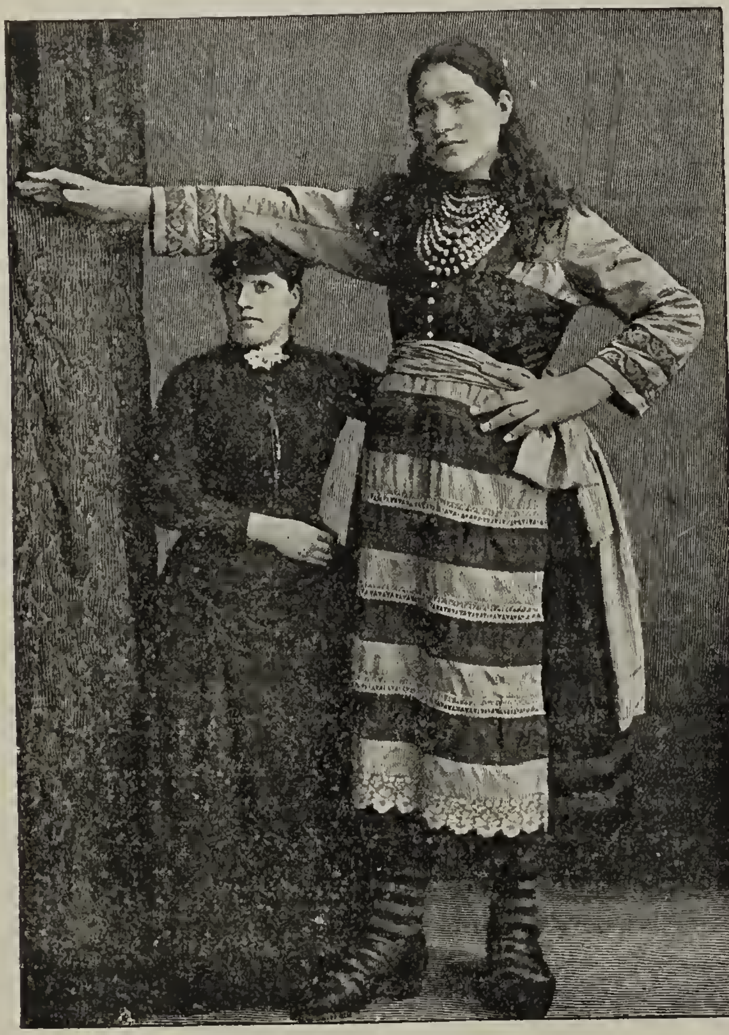

Fig. 1.—The Russian giantess.

But without insisting further upon this offset, we have now a small but constantly increasing number of cases of giantism in which the feet or hands, and in some cases both, are enlarged out of all proportion even to the gigantic stature. Among these may be cited the case of McGrath, the Irish giant, in whom Cunningham, in his masterly monograph, discovered a development of both hands and feet, from measurements taken during life, considerably above the normal proportions even for one of his great height. He also reports a similar condition of affairs in Charles Byrne, the other "Irish giant" of the London College of Surgeons. In the writer's case already referred to, the same disproportion was found, the hand being, instead of the normal one tenth of the total height as laid down in the artistic canons, nearly one seventh of it, and the feet were distinctly above the normal proportions.

For the purpose of illustrating this disproportionate length of the extremities in a purely general way in some cases, of which we have no accurate record, I venture to include the pictures of some five giants and giantesses collected by Dana in his interesting article in *Scribner's Monthly* (February, 1895), in which the disproportionate length of the lower limb is so evident merely at a glance in all of the cases that, even making allowance for errors in the focus of the camera or freaks of the artist's imagination, it can hardly be regarded as a merely accidental coincidence. In most of those who are placed alongside of some individual of normal height for purposes of comparison, the waist line will usually be found to reach almost to the shoulder of the normal individual, and by the extremely crude method of measuring to the probable position of the hip or iliac crest it is found—for instance, in the case of the Russian giantess (see Fig. 1)—that the distance from the ground to this point is no less than thirty forty-sixths, or a shade under two thirds of the entire height, or, in other words, sixty-six per cent. of the total height instead of the normal fifty-five per cent., which, taking her height as seven feet three inches, would give an elevation at the hip, roughly speaking, of fifty-eight inches, while the normal height of a female of her race and age, at this point, would be thirty-nine and three tenths inches, thus accounting for 18.7 inches out of a total of twenty-five inches of excess above the normal height. In other words, nearly four fifths of the total excess would be found to be below the waist line. A similar disproportion can also be readily seen in the measurement of the giant Winckelmeyer, whose height at the hip line, as shown by the position of his hand, is found to be sixty-four per cent. of his height; and, again, in the case of the giantess

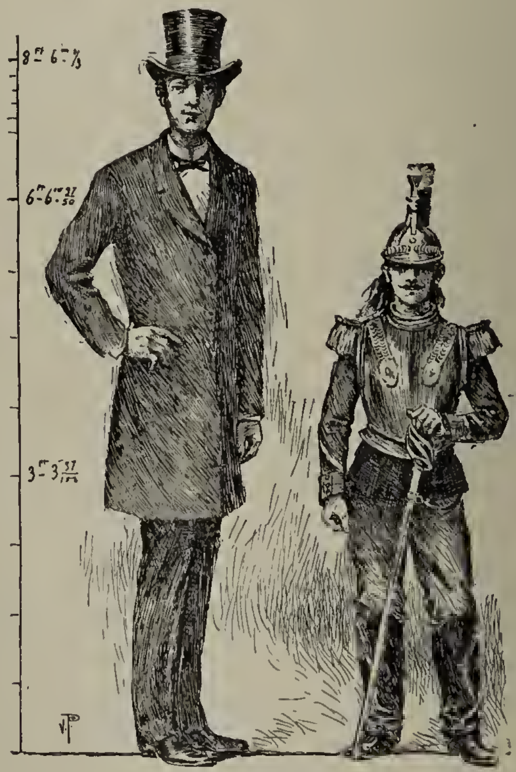

Fig. 2.—Winckelmeyer.

Ella Ewing, of whom I have the honor to present a very imperfect report, the same disproportion is found in the measurements of the photograph, the crest of the ilium being sixty-five per cent. of the total height So that, so far as the position of the overgrowth is concerned, we think we would be justified in claiming, without special reference, as yet, to the cases which are acknowledged to be so-called "combinations" of both these morbid conditions, that the position of the overgrowth in gigantism is in precisely the same situation as in acromegaly. Instead of being limited to the last segment of the limbs, it extends to almost their entire extent, although in some cases the last segment has grown even beyond the proportion of increase of the more central segments.

When we come to the question of the measurements of jaws, we find a very similar state of affairs, always, however, of course, bearing in mind here that we are dealing with a case in which the general stature has been increasing at the same time with the length of the higher ventral arch, the lower jaw. But Cunningham and Langer have both come to the conclusion, the one from an examination of the skeletons of McGrath and Byrne, and a presumably acromegalic giant specimen preserved in Edinburgh, that there is a marked overgrowth of the facial part of the skull as compared with the cranial part, and that this overgrowth is most striking in the lower jaw. Langer, from a careful study of all the available statistics of accurately measured and recorded giants or gigantic skeletons, informs us first that in the skulls of all giants the mandibular ridge is relatively large, and in most the lower jaw is monstrous. Further, the lower jaw frequently exceeds the maxilla in its growth so as to produce a great projection of the chin, and to bring the lower teeth in front of the upper ones. Second, that the increase in growth of the giant's skull affects, as a rule, only the facial portion. As a consequence of this, the cranium remains small while the face becomes large. He considers, however, that this excess of the growth of the face is limited to its lower part, and does not affect the orbital openings or the upper part of the nasal cavities. As to the position of the other overgrowths, the same authority has found that the sternum is usually increased in length and thickness in men above the normal stature; that the tongue is enlarged so as to give a thickened character to the utterance, and that in some cases there is also enlargement of the larynx and hyoid. He also declares that the girth of the chest is in full proportion to the increase of the stature, and in some cases exceeds it, and that in most cases the pelvic girdle is also distinctly increased in proportionate size, which he regards as one of the chief factors, in connection with the abnormal length of the lower limb, in producing the condition of knock-knee so frequently found in these huge individuals.

(*To be continued.*)

THE TRANSMISSION OF DISEASE BY THE MOSQUITO.

By CHARLES F. CRAIG, M. D.,
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(*Concluded from page 381.*)

MANSON'S theory rests upon the following points:

1. The flagellate bodies are forms of the parasite intended to undergo development outside the body.
2. The mosquito is the intermediate host which receives the parasite, and in whose body it undergoes development.

In giving a *résumé* of this theory I shall quote largely from Manson's papers, as they so vividly set forth his opinions upon this subject. His first paper (16) gives a general survey of the evolution of the malarial organism within the blood, and then considers the significance of the flagellated organism. He regards this form of the malarial germ as a "spore form" rather than a degenerate body, for the following reasons:

1. Its active movements.
2. Its definiteness of form.
3. That it does not develop only outside of the body, its function lying outside the body.
4. Under favorable conditions "flagellation occurs in the case of by far the larger number of crescents."
5. The flagellated body occurs in all types of malaria, "a regular and normal occurrence."

He says: "Laveran, Mannaberg, Danilewsky, Dock, Coronado, and others are all of them opposed to the degeneration theory of the flagellates. The best argument I can supply for the interpretation I would put on the nature of these bodies is supplied by the contemplation of the actual bodies themselves. Whoever watches the flagellated organism and the flagella for a little while will arise from the microscope with the conviction that he has been looking at a living thing." He then states that he believes the object of the flagellated organism to be the carrying on of the life of the plasmodium outside of the body, saying: "I conclude, then, that the crescent body, and the tertian and quartan spherical bodies which proceed to flagellation, are the extracorporeal homologues of the intracorporeal sporulating bodies; that the flagellum is the extracorporeal homologue of the intracorporeal spore. Both types of sporulating plasmodium have corresponding functions, both arise from the same source; one is the germ of the plasmodium inside the human body, the other is the germ of the plasmodium outside the human body; both function in the propagation of the parasite."

Of great interest as corroborating Manson's view of the vital character of the flagella are the recent researches by MacCallum.* In the hæmatozoan infections of birds he found that motile fusiform bodies were cast off from the spheres, and that after a flagellum became detached from the plasmodium it seemed to become a fertilizing agent and entered a granular sphere, emerging in from fifteen to twenty-five minutes as the motile fusiform body referred to. As he says: "In other words, we have a sexual process with a resulting motile form." He believes that an analogous process takes place in the case of human malaria, and thus describes certain phenomena which he observed in the blood of a woman suffering from æstivo-autumnal fever, and which were observed at the same time by Dr. Thayer. He says:

"During the last week I have examined the blood of a woman suffering from an infection with the æstivo-autumnal type of organism, in which a great number of crescents were to be seen. These in a freshly made slide of blood, with very few exceptions, retained their crescentic shape for only a few minutes. They soon drew themselves up, thus straightening out the curve of the crescent while shortening themselves into the well-known ovoid form. After the lapse of ten to twelve minutes most of them were quite round and extra-corpuscular, the 'bib' lying beside them as a delicate circle or 'shadow' of the red corpuscle.

"After twenty to twenty-five minutes certain ones of these spherical forms became flagellated; others, and especially those in which the pigment formed a definite ring and was not diffused throughout the organism, remained quiet and did not become flagellated. In a field where an example of each form could be watched, the flagella broke from the flagellated form and struggled about among the corpuscles, finally approaching the quiet spherical form; one of them entered, agitating the pigment greatly, sometimes spinning the ring about. The rest were refused admission, but swarmed about, beating their heads against the wall of the organism. This occurred after thirty-five to forty-five minutes.

"After the entrance of the flagellum the organism again became quiet and rather swollen, but although in the two instances in which this process was traced the fertilized form was watched for a long time, no form analogous to the 'vermiculus' was seen.

"This is evidently for the human being what was foreshadowed by the organisms of the bird."

Having conceived this explanation of the rôle of the flagellated organism in malaria, the next question which arises is, How does the organism leave the human body? In his second paper (17) Manson thus answers this query: "Casting about for an agent which would meet the requirements of the case, it occurred to me, as it had already occurred to Laveran, that as the plasmodium is a passive blood parasite, its escape from the human body might be effected on the same principle that the escape of the passive muscle parasites is effected. As the latter obtain their opportunity by being swallowed by some flesh-eater—some carnivorous animal—I thought the former might get its chance of development by being swallowed by some blood-eater—some suctorial animal, such as the flea, the bug, the louse, the leech, the sand flea, or the mosquito."

"The geographical distribution of malaria, and other very manifest considerations, seem to point to one or other of the two last as the most likely liberating agents, and the notorious association of malaria and mosquitoes with damp and stagnant water seemed to indicate more especially this insect."

He then discusses the similarity between the structure, habit, and requirements of the plasmodium and the filaria, which he has shown to be dependent upon the mosquito for liberation and development. Both are passive parasites of the blood; both are inclosed by a sheath (the blood-corpuscle in which the plasmodium is inclosed acting as a sheath for it), which is evidently intended by Nature as a protective covering; both cast off this covering when they arrive outside the body, "and in both this casting off of their sheaths can be artificially brought about on the microscope slide; in both, as he has proved, the mosquito acts as a liberating agent; both are active as soon as the sheaths are cast off, and both are provided with locomotive powers in order that they may reach and pierce the stomach walls of the mosquito." Having traced the life history of the two organisms thus far, the analogy between them ceases; as in the case of the filaria, it has to re-enter man, whereas the plasmodium may develop independently of man. As to the reason for the plasmodium entering the walls of the mosquito's stomach, Manson says: "And so I consider that the reason why the plasmodium on entering the mosquito pushes for the walls of the insect's stomach is that it may get at some cell in the mosquito's body, therein to curl itself up and grow and sporulate just in the same way that it does in the corpuscles of man, and as is the habit of its allies, the gregarines and coccidia."

He then speaks of the association of gregarines with mosquitoes; how they enter the insect's stomach, encapsule themselves in the Malpighian tubes at maturity, which corresponds with the nymphæ stage of the insect, the capsule ruptures, and the pseudo-navicellæ are liberated; some escape in the fæces of the nymphæ, while others are carried by the mosquito and deposited upon the human skin while sucking the blood, and as the mature mosquito also contains gregarines she carries the infection with her, "scattering it about the country in her fæces or conveying it to any pool she may elect to lay her eggs and afterward to die in." As her body is generally devoured by her progeny, they in turn become infected. Reasoning by analogy upon this point, Manson closes his second paper as follows: "We can readily understand how the mosquito-bred plasmodium may be swallowed by man in water, and we can readily understand how it may be inhaled in dust. Mosquito-haunted pools dry up. The plasmodia in the larvæ, and those that have been scattered about in the water, finding themselves stranded by the drought and so placed in a condition unfavorable for development, pass into a resting stage, just as they do when by quinine or other means man is rendered temporarily unsuited for their active life. They may, probably do, become encysted, as so many of the protozoa do in similar circumstances. The dried sediment of the pool, blown about by winds and currents of air, is inhaled by man, and so the plasmodium may find its way to the human host, from whom its ancestors, perhaps, had started generations back. I would conjecture that on entering man and on entering the larval mosquito it develops into a flagellated spore similar to the flagellated spore it develops into in the mosquito's stomach. In this way it would be enabled to penetrate the mucous surfaces and get to the human blood cell."

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* *Johns Hopkins Hospital Bulletin*, November, 1897, and January, 1898.

In the instances where the mosquito dies far from water, its body falls upon the soil and decomposes, liberating the plasmodium, which assumes a resting stage. Such soil, blown about or dug over, exposes the germ to air currents which carry it off, and it is inhaled by man. Manson thinks that in this way we may explain those cases of malaria which are apparently unconnected with swamps or stagnant water.

Such, in brief, is Manson's mosquito theory of the transmission of malaria, and it rests upon some valuable experimental evidence. In his third paper (18) he details the experiments of Ross, of India, along this line. Ross placed a native suffering from malarial poisoning, in whose blood the crescent form of the plasmodium abounded, beneath a net and allowed mosquitoes to suck his blood; the mosquitoes were then collected and their blood examined systematically, using as control tests slides of finger-blood preparations made from the same patient at corresponding times. His conclusions, given in a letter to Manson, are as follows:

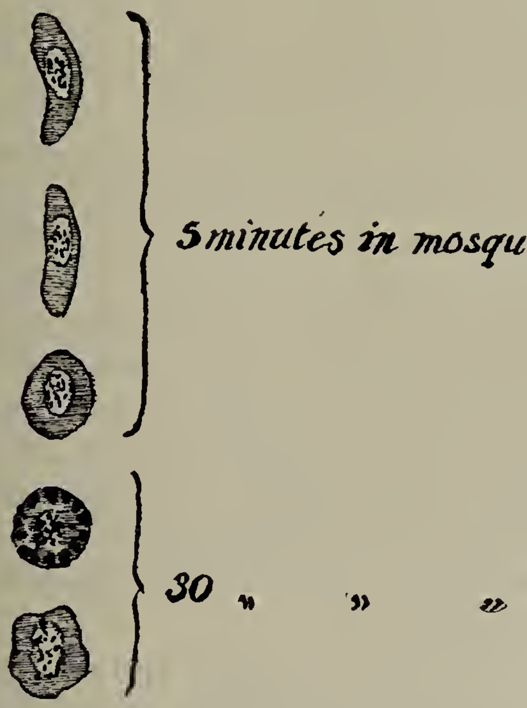

Fig. 4.—Development of the *Plasmodium malariæ* in the mosquito. (After Manson.)

"1. Almost all the crescents are converted into spheres very shortly after they enter the mosquito's stomach—ten, fifteen, twenty, or more minutes. Ovals are not often seen. Untransformed crescents are, I believe, aborted ones.

"2. The spheres are always found. They have a perfect contour and contain a clear material, which distinguishes them markedly from the mass of corpuscles in the midst of which they are generally found. At first the pigment is clustered together, then the outermost pigment particles commence swarming, while the whole cell may take on a slight jerking movement.

"3. Flagellate organisms may be found at from seven to thirty-five minutes or more.

"4. The spent spheres or pigment masses may sometimes be seen very early, even at eight minutes, but these are very few in number. Their number steadily increases, almost without fail, in successive mosquitoes of the same batch as regards time of feeding until they may reach sixty per cent. of all parasites not inclosed in phagocytes. Their appearance is quite characteristic, simply because they are not inclosed in the clear, well-defined cells of the spheres. Their absence in the blood of the earlier killed mosquito and their large number in the blood of the later killed show conclusively that they are due to a progressive metamorphosis inside the mosquito, and not to crushing in making the specimen.

"5. Phagocytes containing spheres and pigment begin to be seen later than the spent pigment (at about twenty minutes or so), and increase in number up to about two hours.

"6. About thirty or forty per cent. of the parasites fail to throw out flagella, and remain as spheres."

From the above results, reached by experimental work, it is demonstrated that the plasmodium of malaria undergoes a metamorphosis within the body of the mosquito; whether this process is one of degeneration or whether it is one of still further development remains a question, but the probabilities are that Manson's idea is correct, and we have here the proof of the connection of mosquitoes with malaria.

Sternberg (19) thinks that "it is difficult to believe that man is essential for the completion of the life cycle of the plasmodium, for the most concentrated and deadly malarial emanations may be given off from marshy places which are far removed from the haunts of men. It may be, however, that the mosquito is an essential factor in the development of the plasmodium, and that man, instead of being a necessary intermediate host, only serves occasionally and, in a certain sense, accidentally as such." He thinks that perhaps the plasmodium may live upon the leaves and stems of water plants, and cites in favor of this view the fact that malarial fevers only prevail when the marsh vegetation is unsubmerged, and the very evident need of the organism of an abundant supply of oxygen. He says: "Possibly the mosquito is an intermediate host for the *Plasmodium malariæ* on a larger scale than Manson suggests. The natural food of this insect is the juices of plants, and, no doubt, a vast majority of them never have a chance to fill themselves with the rich, red fluid from their human victims which they are so eager to substitute for their normal diet when opportunity offers. If, as we have suggested, the plasmodium abounds upon the stems and foliage of herbaceous plants in marshy localities, the mosquito would be very likely to pick it up in following its everyday method of gaining a livelihood."

In concluding his papers upon this subject Manson says: "On first thought, and until we become familiar with the idea, it may seem a marvelous and almost incredible thing that the malarial germ, the worst of the animal parasites affecting man, should come to us through a familiar insect. But when we reflect on the circumstances of the life of the plasmodium; on the fact of its being a blood parasite; that the mosquito is a blood sucker, living on and intimately associated with man; on the certainty that the plasmodium is continually and in all parts of the world entering the mosquito; on the liability of insects to gregariniform infection; on the notorious association of malaria and mosquitoes with stagnant water—after all the idea does not seem so extraordinary and unnatural; in fact, when we come to think of it, we are driven to conclude that it is just what we might expect. Certainly it is not a whit more marvelous than the relationship of the same insect with *Filaria nocturna.*"

I have quoted freely from Manson's work upon this subject on account of its importance and because the words of the author of a theory are always of more interest than another's. His theory is at once so simple and yet comprehensive, in that it accounts for so much heretofore unknown concerning the ætiology of malaria, that to have dismissed it with a few words would have been unsatisfactory both to the writer and the reader. To the writer it seems to be the one theory which provides for the conditions present, and it is his belief that time will prove that Manson is correct in the general deductions which he makes.

Ross, in a recent paper (20), as a result of experimental research, states that increased density of the fluid containing the plasmodium is necessary for flagellation and transformation to take place, and, as this is just the condition obtaining in the mosquito's stomach, he argues that this new fact is in favor of Manson's theory. In closing this portion of our subject I will quote the following, written by Dr. Amigo Bignami (21), who has given this phase of the transmission of malaria much study. He does not believe, with Manson, that the flagellated body is calculated to preserve the life of the plasmodium outside the body—*i. e.*, in the mosquito—but thinks that malaria probably is often inoculated by the bite of the insect. He says: "If one admits the inoculation hypothesis, many facts which are difficult to explain by the theory of air conduction would find a simple and satisfactory explanation, and it is easy to demonstrate this. First of all, the fact, which we have already discussed at length, that malaria is not carried by the winds, would be easily understood, knowing as we do how closely these diptera are bound to the soil on which they are hatched, and how adverse they are to allow themselves to be carried away, hiding, when the wind blows, in the ground, among the grass, or under the trees. Also, when a sea breeze blows in the afternoon, the mosquitoes of the Roman Campagna do not show themselves, and only when the wind has gone down at the setting of the sun do they rise in clouds everywhere and attack animals and man. That the evening and night hours are most dangerous, on account of the facility with which fever is then taken, would be easily understood by any one who knows the habits of this nocturnal dipter. That malaria only rises to a moderate height would also be equally intelligible, because the inoculating agent always flies near the ground. A satisfactory explanation would also be furnished of the great danger of sleeping in malarial districts, a fact of which the supporters of the air-conduction theory have never been able to give more than an artificial explanation. Any one who has experience of malarious districts well knows a number of cases in which the patient attributes the fever that torments him solely to having slept a few hours in a place where several times he had perhaps remained while awake without harm. Three years ago I made, with my colleague Dionisi, various excursions into malarious localities for the purpose of study, and more especially with the object of collecting from the inhabitants the results of their experience—an experience which one finds with difficulty in books. Many precautions which they take against the fever are taken, one would say, to defend them from the sting of insects. They avoid going out at night; they are very careful not to sleep in the open air; they hermetically close the windows—windows with badly fitting shutters which might impede the ingress of insects, but certainly not of air and the germs which it might contain. They take great care of their mosquito curtain, making it of very close net, under which they sleep, thoroughly shut in, notwithstanding the great heat.

"It is interesting to remember that Emin Pasha never omitted to take a mosquito net with him on his African journeys, and he attributed to this precaution his not having had fever, the malarial agent in his idea being a corpuscular substance of which he supposed the close net did not permit the passage." Nicolas, in his book on the Hygiene of Camps in Marshy Places, thus expresses himself on this question: "And the mosquito net, well shut, is indispensable at night. Without attributing to the puncture of mosquitoes any relation whatever with the microbes of the fever, one may be certain that irritation by them produces sleeplessness and predisposes to fever." On the estates and farms visited by us in the Campagna the overseers, who are less frequently attacked by the fever than the workmen, protect themselves with great care from the bites of insects, especially during sleep. Many have observed that in autumn after the rains the mosquitoes increase and likewise the fevers, and as the season advances they disappear together, little by little. Thus, collecting from the inhabitants (who are really much better informed about malaria than some medical men) the results of their experience, the conviction grows upon one that if malaria were inoculated by mosquitoes into man all the questions which I have put in a preceding paragraph would receive an adequate answer. Malaria behaves itself in regard to man as if malarial germs were inoculated by mosquitoes."

We have thus far spoken of the connection of mosquitoes with three disease organisms—the microbe of yellow fever, the *Filaria nocturna*, and the *Plasmodium malariæ*. It is not at all improbable that the mosquito may cause infection, accidentally, of man, with other disease microbes. If a mosquito, for instance, is disturbed while sucking the blood of an animal suffering from anthrax, alights soon after upon another animal or man, and, inserting its wet, blood-stained beak, commences to fill itself anew, what is to prevent the transfer of the anthrax bacillus into the blood of the new victim? Such an inoculation of the bacillus would almost certainly take place, provided it was present upon the beak of the mosquito. At any rate, which one of us would care to try the experiment? The rôle of the mosquito in the transmission of disease is, I believe, a wide one, and one deserving the attention and careful study of hygienists and bacteriologists.

The recent discovery by Sanarelli of the organism which is probably the cause of yellow fever—*i. e.*, his *Bacillus icteroides*—gives added interest to the possibility of the transmission of the disease by the mosquito, for he has demonstrated that this bacillus grows best in nature where there is most moisture, and in conjunction with species of moulds. Such localities are also the favorite breeding places of the mosquito. Careful study of this question by investigators favorably situated should result in valuable data.

References.

1. Osborn. *Bulletin No. 5*, new series. Division of Entomology, United States Department of Agriculture.
2. The same.
3. *Edinburgh Medical Journal*, October, 1894; *Annual of the Universal Medical Sciences*, vol. i, G. 57, 1897.
4. *Reference Handbook of the Medical Sciences*, vol. iv, p. 786.
5. *Medical News*, May 2, 1896, p. 477.
6. *Quain's Dictionary of Medicine*, vol. i, p. 699.
7. *Lancet*, 1880, vol. ii, p. 702.
8. *Reference Handbook of Medical Sciences*, vol. ii, p. 665.
9. *British Medical Journal*, March 21, 1896, p. 715.
10. *British Medical Journal*, February 15, 1896, p. 401.
11. *British Medical Journal*, February 29, 1896, p. 530.
12. Malarial Fevers of Baltimore. *Johns Hopkins Hospital Reports*, vol. v.
13. *Bulletin No. 1.* Bureau of Animal Industry, United States Department of Agriculture, Washington, 1892.
14. *Indian Medical Gazette*, Calcutta, 1896.
15. *Bulletin of the Johns Hopkins Hospital*, March, 1897, p. 42.
16. *British Medical Journal*, March 14, 1896, p. 641.
17. *British Medical Journal*, March 21, 1896, p. 712.
18. *British Medical Journal*, March 28, 1896, p. 774.
19. *American Medico-surgical Bulletin*, April 10, 1897, p. 334.
20. *British Medical Journal*, January 30, 1897, p. 251.
21. *Lancet*, November 21, 1896.

HYSTERECTOMY FOR ACUTE PUERPERAL SEPTIC METRITIS,

WITH THE REPORT OF A SUCCESSFUL CASE.[*]

By HIRAM N. VINEBERG, M. D.

The case forming the basis of this article possesses a double interest: First, it adds one more successful case to the rather limited number thus far reported, and, secondly, it forcibly demonstrates some important points in the pathology and treatment of this dread disease upon which the profession still seems to have a divergence of opinion. The sense of satisfaction afforded by successful operative interference when it consists in so vital a procedure as the sacrifice of a woman's generative organs, especially in a young person, must always be in the serious and right-minded operator clouded with the perplexing question, Could the woman's life have been saved by less radical measures? If this question is perplexing at times, even after we have opened the abdomen and removed the uterus and appendages, how much more difficult must be its solution when we have to depend solely upon the clinical phenomena present. The voluminous literature upon the subject, with the comparatively recent additional knowledge acquired through bacteriology, does not help us so materially when we are brought face to face with a given case of puerperal infection. Each case must be carefully watched and studied, our line of action must be prompt, and while it should be based upon well-grounded conservative principles, it should not be characterized by a hesitancy and lack of courage that postpones heroic measures until the patient is moribund.

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[*] Read in part in a discussion on the treatment of puerperal septic diseases before the New York Academy of Medicine, October 7, 1897.

Mrs. F., aged eighteen years, married twelve months, was delivered of her first child on May 31, 1897. She was attended by Dr. ——, who informed me the labor had been easy and normal. He had examined the placenta and membranes, and to all appearances they had come away "entire." The baby was put to the breast early, and everything seemed to be progressing favorably until the sixth day, when the young parturient had rather a severe chill, which was followed by "some fever." On the day following she had another chill and elevation of temperature. She now began to suffer from considerable abdominal pain, for which the doctor prescribed opium and camphor. Small doses of acetanilide were regularly given to keep down the temperature. The symptoms continued about the same until June 8th, when I saw her for the first time. I found a strong-looking woman, moderately anæmic, breathing rather rapidly, with a temperature of 103° F. (oral) and a pulse of 120, soft and compressible. The tongue was heavily coated with white fur, though moist. The patient was apathetic and slightly delirious. The fourchette was found to have been torn, but the perinæum was intact. The labia majora were swollen considerably from œdema; they were transparent, resembling a hydrocele of the testicle. There was no vaginal discharge and no fœtor. The cervix was but slightly lacerated, normal in appearance, and the canal fairly well closed. The uterus was large (corresponding in size to the gravid organ at the tenth week) and not particularly sensitive to pressure. The abdomen was flaccid, the annexa apparently normal, and the parametria free from any exudate. I made the diagnosis of sepsis due to retained placental or decidual tissue and advised curetting, to be followed by appropriate treatment. It was with some difficulty that I could get the attending physician to accept my view in the absence of fœtid lochia. With a sharp curette I scraped the interior of the uterus as thoroughly as I deemed it safe with an organ in that condition, removing considerable grayish-white fragments of tissue, and irrigated with a solution of bichloride (1 to 3,000), followed by irrigation with sterilized water. The doctor said to me, in a tone of triumph, "You did not get much from the inside of the uterus," to which I replied: "Enough to kill the woman," and I tried to impress him with the necessity of employing frequent intra-uterine irrigations. I heard nothing further of the case until three days later, which was on the afternoon of June 11th, when I was sent for in great haste, the messenger saying that the patient was in a dying condition. I reached the house with the attending physician and learned from him that the treatment I had advised could not be carried out, owing to the miserable surroundings of the patient, that for the first twenty-four hours following the curetting there was marked improvement, and that then the chills, pain, and fever had set in as before. The patient was now apathetic; delirious; tongue more heavily furred; temperature, 103.5° (oral); pulse, 130, and still of fairly good volume. The abdomen was slightly distended, and there was some tenderness over both broad ligaments. I gave an intra-uterine douche of two-per-cent. carbolic acid, and, after very much persuasion, I obtained the consent of the family to have the patient transferred to St. Mark's Hospital. She reached the hospital in an ambulance about 6 P. M. I saw her at 8 P. M.; had her brought into the operating room and gave another intra-uterine douche. There was no discharge from the uterus, and the irrigation came away clear. The various cardiac stimulants were now regularly administered, whisky and milk given very freely, and a cold-water coil applied to the abdomen. Vaginal douches of lysol, one per cent., were given every two hours.

June 11th, Midnight.—Temperature (rectal), 104° F.; pulse, 156; respiration, 48.

12th, 9 A. M.—Temperature, 102°; pulse, 135; respiration, 44. Intra-uterine irrigation returning fluid clear. Abdomen slightly more distended.

6 P. M.—Patient sinking; temperature, 105.5° F.; pulse, 154, very small and compressible. Abdomen getting more distended, and pressure over the broad ligaments makes the patient cry out with pain.

Although there was no discharge from the uterus, and the intra-uterine irrigations did not bring away *débris*, I was confident that the source of infection was in the uterus and that the patient's life might still be saved by removing that organ. I was fearful that I had waited too long, that the peritonæum had become involved, and that the patient's system was too deeply poisoned to withstand the shock of so serious an operation.

At 9 P. M., June 11th, after presenting the facts to the husband and obtaining his consent, I performed abdominal total hysterectomy. I found the broad ligaments considerably thickened, œdematous, and of a pearly white color. The peritonæum between the bladder and the uterus in the same condition, as was also the peritonæum covering the uterus. The annexa were apparently normal. In removing the uterus I applied the ligatures on the broad ligaments as far out and as near the pelvic wall as possible. Although the operation was done rather hurriedly, great care was taken to save the patient from any excessive loss of blood. She came to the table with a face white as a sheet, with the mucous membranes blanched, and with the condition of the heart as indicated by the pulse; any marked loss of blood would mean "death on the table." During the operation she was given a couple of subcutaneous infusions of sterile physiological salt solution. The pelvic cavity was packed with iodoform gauze, the end of which passed through the opening in the vagina. Another strip reached this packing from above, covered the stumps of the broad ligaments, and passed out through the lower angle of the abdominal incision. The remainder of the incision was closed with through-and-through silkworm-gut sutures.

The patient left the operating table with a pulse fully as good as that before the operation.

The removed uterus presented the following characteristics: Body and fundus moderately soft, lower segment of quite firm consistence, and cervical canal tightly closed. Length, fifteen centimetres; width, at fundus, thirteen centimetres. Thickness of wall at fundus three centimetres. On cutting open the uterus, the whole interior above the cervical canal was found to be covered with a dark, tenacious, slimy discharge, emitting a very foul odor. Attached to the left horn and extending transversely on the anterior wall was a portion of placental tissue measuring two by four centimetres. Its free surface was rough and irregular, and its attached surface organized and very firmly adherent to the uterine wall. So firm was this union that with the nail and finger it could not be peeled off. Both tubes and ovaries were normal in appearance.

18th, 9 A. M.—Twelve hours after operation, temperature, 102.8°; pulse, 148. For the following seventy-two hours the temperature ranged from 100° to 105.5° F., and the pulse from 120 to 168. At the end of this period all the dressings were removed and exit given to considerable purulent fluid that had collected in the false pelvis. From this on the patient made a gradual recovery, interrupted somewhat by the formation of a couple of phlegmons at the sites of the subcutaneous saline infusions. She left the hospital at the end of six weeks, and when seen four weeks later was the picture of good health.

It has been stated that had the finger been used instead of the curette, all of the placental tissue could have been removed and the patient saved without the hysterectomy. The comment was made without seeing the removed uterus, which at a glance would have convinced the critic that dilatation of that cervix to the extent of admitting a finger would probably have resulted in rupture of the uterus; and, further, that even had it been feasible to dilate the cervix so that the finger could have been introduced, it would require to have been of abnormal length to reach the site of the adherent placenta, seeing that the uterine cavity measured six inches and that the placental remains were attached at the farthest point. Furthermore, we have seen that with the uterus removed and cut open the finger was unable to peel off the placental residua. It is an old Italian proverb that "Every ditch is full of dirty water after rain," and it is so temptingly easy to criticise a procedure after it has opened up to us a field of vision that before was closed to our sight, for it was not until the uterus had been slit open after its removal that the presence of the placental residue was discovered.

In the foregoing case there can, therefore, be no reasonable doubt that the patient's life was saved by the operation. It may be true that cases presenting as severe clinical symptoms have recovered without a radical operation, though I have not seen any myself. But the pathological condition disclosed on opening the abdomen, and that seen in the interior of the uterus were such as to make it morally certain that the patient would have died within a short time had surgical relief not come to the rescue. Infiltration had already extended to the peritonæum covering and adjacent to the uterus; the process was not of the acute inflammatory type, which at times may become circumscribed by the formation of adhesions and collection of pus. It was rather of the type that creeps along gradually and within a comparatively short time becomes general. The clinical features of cases pursuing this course are not unknown. Unfortunately, one meets with them rather frequently in consulting practice. The history given by the attendant corresponds in the main with the early portion of that given in the above case. The parturient had been quite well for the first week, then she began to have fever, probably chills, and abdominal pain. The attendant, if he is a careful man, examines his patient, finds no fœtid lochia, no exudate, and the uterus apparently of normal size. He does not think there can be residual placental tissue, for he examined it after it was expelled and found it and the membranes "entire." The patient gradually grows worse. On the seventh or eighth day of the illness she begins to bloat, and the physician becomes alarmed and sends for a consultant. The latter finds on his arrival a moribund patient, and the *exitus letalis* may occur while he is still in the room. This is not an overdrawn picture, and scarcely a month elapses that the writer does not meet with one or two experiences of that kind.*

The question has frequently occurred to him, Why is it that the infection manifests itself so late, comparatively speaking, in these cases? A study of the foregoing case and similar ones has led him to offer the following explanation: A small portion of placental tissue remains attached to the uterine wall. It gradually undergoes disintegration, the *débris* being carried away with the lochial discharge. But, at the end of the first week or thereabouts, the cervical canal becomes moderately closed if involution has been going on normally, which it does in these cases in the lower segment of the uterus, while the process in the body of the fundus is sluggish owing to the presence of the placental tissue. The patency of the cervical canal is still further interfered with by the heavy body sinking forward, making the flexion of the cervix more acute than that which normally obtains in the puerperal uterus during the second week. As a consequence of these conditions, the escape of the discharge is interfered with, retention of the lochia and the disintegrated placental remains occurs, resulting in absorption and sepsis.* It is exactly these features in this variety of puerperal sepsis that misled the attending physician. If the third day has elapsed without any elevation of temperature, he feels pretty safe that the period of sepsis has passed. When the patient does get a chill between the sixth and tenth day and has fever, he asks whether the lochia possess a fœtid odor, and examines this for himself. He finds the lochia scanty or absent and that there is no fœtor. If he goes further in his examination he finds that there is no exudate, that the cervix is not patulous, and that the uterus is large; but he expects a large uterus normally at this period of the puerperium. He therefore excludes sepsis as a cause of the fever and rapid pulse. He still further excludes placental residua, as he has been taught that they are commonly attended either with uterine hæmorrhage or with fœtid lochia and a patulous cervix. Even so able and acute an observer as J. M. Baldy, of Philadelphia, makes the presence of purulent and fœtid "discharge" a crucial point in the diagnostication of this form of sepsis.†

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* Just as this article was ready for the press the writer was hastily summoned to see a parturient who was said to be septic. She had been delivered nine days before by a well-known obstetrician. "*Accouchement forcé*" was employed and forceps applied to extract twins, as the woman was suffering from dyspnœa, owing to great abdominal distention. She was attended also by two other physicians. On the third day a very distinguished gynæcologist was called in consultation on account of the presence of fever. He gave it as his opinion that the fever was due to a kidney affection, a slight albuminuria being present. On the sixth day she had a severe chill, followed by a temperature of 107°, but on the following morning the temperature had fallen to 100°. The case was now looked upon as probably due to malaria, and quinine was administered. For the following two days the temperature ranged from 99° to 104°, and the pulse from 112 to 160. As the patient became very much worse on the morning of the ninth day, one of the physicians in attendance decided that she was septic and sent for me. I found the patient in an almost moribund condition—pulse 160, compressible and very feeble; the abdomen moderately distended; the uterus large and the cervix in a torn, ragged condition, but the canal fairly well closed. I expressed the opinion that the sepsis was due to something within the uterus and advised curetting, though I thought it was probably too late to accomplish anything with it. Two hours later, when everything was in readiness for the curettage, the patient was placed on the table, but expired in a few moments, just as a few whiffs of chloroform were being administered. The uterus now relaxed, so that I was enabled to pass the whole hand within it, and found attached to the fundus a piece of placenta half the size of my open hand. The placental tissue was in an advanced stage of decomposition. I was not permitted to remove the uterus.

The writer is well aware that there are cases in which such phenomena do occur, but in his experience they are rather the exception, particularly in those in which the manifestations of sepsis are late in appearing. He is also aware that there are various other forms of sepsis, or rather sources of infection, and that cases occur in which there is more than one avenue for the entrance of the poison into the system. These cases are especially puzzling from a therapeutic standpoint.

But if we gain a clear clinical picture of one form of puerperal sepsis, we are put in a better position for recognizing other forms. The reasons why I am laying such stress upon this particular form of sepsis are:

(1) It presents to us, if early recognized, the most favorable variety for success with our therapeutic measures.

(2) If not recognized early it rapidly develops into a serious form of sepsis, which may either prove fatal or bring into its train a series of lesions from which the patient may be months in recovering.

(3) Because, in consulting practice, I find it is so difficult to convince the attendant of the true nature of the case, and to impress him with the necessity of carrying out the proper line of treatment.

I prefer the term sepsis to sapræmia or septicæmia. The latter terms merely signify a greater or less degree of septic infection.

At the bedside it is often difficult or impossible to tell whether the case is one which falls under the heading of sapræmia or septicæmia. Again, a case may present the features which we characterize as that of sapræmia, and lull us into a false sense of security. Before twenty-four hours elapse the case may, however, develop all the characteristics of the most virulent form of septicæmia, and we will reproach ourselves for having been found napping. Further, the terms as employed are misleading from a clinical standpoint. Sapræmia is generally used in the sense that the infection is local, and septicæmia that it has become general or constitutional. Now, to my mind, this is paradoxical. If a fragment of placental tissue attached to the uterine wall is undergoing disintegration and its products are becoming absorbed and giving rise to elevation of the temperature and rapidity of the pulse, we have *constitutional* symptoms. On the other hand, no one nowadays maintains that septicæmia is caused in any other way than by absorption of septic material from one or more local points. Puerperal septicæmia is not a constitutional disease with a local expression, as, for instance, was applied in former days to diphtheria. The local expression comes first, and from it result the constitutional phenomena. The most logical attitude, therefore, is to regard all such conditions in the puerperal woman as that of sepsis, and not to lose sight of the fact that various degrees of it occur, and that the so-called sapræmia and septicæmia are merely different degrees of the same affection.

Having by exclusion, or otherwise, made our diagnosis that the sepsis is due to the absorption of material within the uterus, our line of action is clear and should be prompt.

The patient should be anæsthetized, and the vulva and vagina well scrubbed and irrigated with an antiseptic solution. The uterus should be forcibly dilated with any of the many steel dilators in common use. Great care must be taken in this step not to rupture the uterus, for the tissues are friable and tear more readily than they stretch. If the cervix can be dilated to such an extent that a finger may be introduced, so much the better. But in many cases, when the dilatation has to be done after the sixth day of the puerperium, dilatation to such a degree may be an impossibility without great risk of tearing the cervix at the *os internum*. When once the cervix begins to tear at this point all efforts at dilatation should cease, for it would take but very little additional force to extend the tear through the entire uterus, as has been unfortunately too often done. Then with a sharp curette the interior of the entire uterus should be gently traversed in all directions and a search made for the offending material. With a little experience and some patience the search with the sharp curette may be made as gently and as thoroughly as with the finger.

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* It is very gratifying to the writer to find that this view receives confirmation in a recent article by Bumm (*Centralblatt für Gynäkologie*, November 13, 1897) that came to hand after this paper had been sent to the *Journal*. The article is based on extensive clinical and bacteriological investigations, and ought to be read and studied by everybody who has to deal with puerperal conditions. A valuable *résumé* of it is given in an editorial in this journal for December 11, 1897.

† The absorption of septic material is taking place from the cavity of the uterus, as demonstrated by the absence of all other causes and *the presence of purulent and fœtid discharge* (the Italics are mine). *American Journal of Obstetrics*, July, 1895.

When the point is found where the organized blood-clot or placental or decidual tissue is attached to the wall of the uterus, the scraping at this situation with the curette should be thorough and vigorous. Of course, when feasible, the finger should be used as an aid and guide to the curette. After the placental or other foreign tissue has been removed, the uterine cavity should be thoroughly irrigated either with sterilized water, two-per-cent. carbolic-acid solution, or a weak solution of bichloride (1 to 3,000). When the latter is used it should be followed immediately by an irrigation of saline solution.

At the recent discussion of the Academy of Medicine on the treatment of acute puerperal sepsis considerable divergence of opinion obtained as to the use of the curette at all, and whether a sharp or a dull one should be employed.* It seemed to me, while listening to what was said, that the indications for the use of the curette were not made very clear, and that the difference of opinion arose from this circumstance.

Its use was spoken of in septic metritis and endometritis. Given a case of septic metritis when the deeper tissues of the uterus are involved, I can see no good from its employment. What is it expected to accomplish with it? Surely no one would expect to be able to scrape away all of the diseased tissues, and anything short of that would be almost useless.

It is amusing to observe how scientific observations are at times perverted and employed to teach an entirely different lesson from that which they were intended to. The oft-quoted "granulation zone," other times called Nature's barrier, was described by Bumm. This observer had examined the scrapings obtained by curetting the milder varieties of puerperal septic endometritis. He found that the bacteria in these cases penetrated only the superficial and necrotic part of the endometrium and that their further march was arrested by a cell infiltration forming a granulation layer of some thickness. Still, in spite of the fact that the bacteria did not enter the general system through the lymphatics or blood-vessels, the patients had chills, fever, and rapid pulse — constitutional symptoms. The explanation given by him is that the constitutional symptoms were caused by the absorption of the chemical products developed in the necrotic tissue by the streptococci and staphylococci.

The observation, therefore, strongly emphasizes the necessity of following up a curetting with frequent irrigations (and not merely by a single one, as advised by many) to wash away necrotic tissue and *débris* as soon as they form.

In the virulent form of septic endometritis Bumm's investigations of the uteri removed *post mortem* showed that there was little or no attempt at the formation of a granulation zone, and that the streptococci and other pathogenic bacteria rapidly penetrated through the entire thickness of the uterine wall and were found in the peritonæum. Curetting in these cases would be contra-indicated, not because, as held by many, it would break down Nature's barriers, for, as we have seen, none such exist, but because the mischief would be deeper in the uterine structures than the curette could reach. This virulent form has been termed "internal erysipelas," from the close resemblance of the pathological processes to that which obtains in erysipelas of the skin. Frequent irrigations with some antiseptic solutions would seem to be indicated to correspond to the wet antiseptic dressings employed in external erysipelas.

In mild cases of infection a curetting and a single intra-uterine irrigation may be all that is necessary, but in the vast majority of cases that one meets, the fall of temperature and of pulse will be only temporary, and in these irrigations, repeated every three or four hours or even oftener in very severe cases ought to be carried out for several days. There is a large phlegmonous surface left after the removal of the foreign tissue, which secretes a copious discharge, and it must be our aim to remove this as frequently as possible. The discharge mixes with the tenacious mucus from the endometrium, and therefore acquires the tendency to cling to the lining of the uterus. It requires a pretty strong stream to wash it all away. I have been surprised to find that after having, as I thought, washed out all the discharge, on elevating the fountain syringe two feet higher and on changing the direction of the intra-uterine tube somewhat, large flakes of *débris* would appear with the returning fluid. I have frequently found it necessary in these cases to dilate the cervix gently with a Sims's dilator every day or two in order to favor the drainage.

It seems singular to me that there should be any difference of opinion on this point. Every one is agreed upon the necessity of drainage in phlegmonous conditions elsewhere, and it surely finds its greatest necessity, if we may use such a phrase, when it occurs within the uterus. We have, in the first place, a cavity with a high absorbing power; and, secondly, a cavity whose only exit is a narrow canal (the cervical) which has a strong tendency to contract and interfere with the egress of any discharge.

I have found the following plan effectual and feasible: If after the lapse of twenty-four hours following the curetting the temperature should begin to ascend, the uterus is again thoroughly irrigated with a good-sized glass tube. The glass tube is removed and two sterilized gum-elastic male catheters are introduced within the uterus and left *in situ*. The nurse is instructed to irrigate the uterus by attaching the tubing of the fountain syringe to one of the catheters; to the other catheter is attached a piece of tubing which carries the returning fluid to a vessel beneath the bed. The irrigations are given every two, three, or four hours, according to the severity of the case. Every twelve or twenty-four hours the catheters are removed by the attending physician, the uterus is irrigated with the glass tube, and the catheters are then reinserted, after having been cleansed and sterilized. In severe cases it will be found that the temperature makes several curves during the twenty-four hours, and it may happen that the thermometer shows an elevation of two degrees just after an irrigation. The conclusion very many doctors arrive at from this phenomenon is that the irrigations are injurious and cause an aggravation of the symptoms. I have invariably been able to demonstrate to the attendant that the irrigations had nothing to do with the elevation of temperature, and that when they were omitted altogether for twenty-four hours the temperature and pulse would go up much higher and the general condition of the patient would grow worse. For the past few years I have treated twelve cases after this manner, and the patients have all recovered without any further surgical aid, except in the case reported at the beginning of this paper. It goes without saying that the general treatment for puerperal sepsis, such as alcoholic stimulants, cardiac tonics, and liquid food, was not neglected.

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* It was stated by one gentleman that the curetting should not be carried down deeper than the "protecting zone." This is like asking a person to investigate a microscopic object with his eyes closed. The curetting would need to be done not only with the aid of sight but with the aid of a powerful microscope.

We are now prepared to say a few words on the indications for hysterectomy in this class of cases. Some operators consider hysterectomy indicated if, after curetting, the temperature should rise to 103° F., and have a tendency to stay above 101° F. In several of my cases the temperature after curetting ranged from 101° to 104° F. for several days, and still the patients recovered without hysterectomy. In my opinion the pulse is a more important guide than the temperature. If, in spite of curettage, frequent irrigations, and approved general treatment, the pulse should go above 130 and grow small and weak, in my opinion the gross source of the infection should be removed by extirpating the uterus.

Besides the pulse, the condition of the abdomen should be carefully noted. As soon as there are signs that the disease is extending to the general peritonæum, no time should be lost in resorting to hysterectomy. Here, again, the pulse forms one of the most valuable signs that the peritonæum is beginning to be involved. The character of the pulse is as valuable a criterion as its frequency. In addition to being small, it possesses the feature so aptly described as "fleeing." Another important sign is abdominal distention. This begins in the iliac regions and gradually extends upward. It may be quite considerable before there is marked involvement of the peritonæum. Judging from observations made in early operations in foudroyant appendicitis there is a pre-inflammatory stage of septic peritonitis manifested by great injection of the blood-vessels of the serous coat and partial paralysis of the bowel, attended with moderate distention.

Removal of the gross source of the septic infection at this stage usually prevents further progress of the peritonitis. At least this has been my experience in several cases of virulent appendicitis operated upon. I have learned to look upon the tongue as a valuable prognostic sign in this class of cases. So long as it remains moderately moist, no matter how heavily furred, there need not be much fear that there is marked septic peritonitis. But a markedly dry tongue, though the coating is but slight, signifies in the majority of cases, according to my experience, a septic peritonitis that generally proves fatal.

It is not my intention to draw general conclusions from a single case, but, in my opinion, the abdominal route is preferable to the vaginal for the extirpation of the uterus in this variety of puerperal sepsis. The uterus is unusually large, and before it could be removed *per vaginam* it might be necessary to bisect it or employ morcellation—undesirable procedures with a highly septic organ. Further, it is essential to ligate the broad ligaments far out and as near the pelvic wall as feasible, which certainly can be done better from above than from below; and, further still, the freest drainage in both directions should be provided for. In a similar case to the one I have had I would leave the abdominal incision pretty wide open, just as one does in a bad case of acute septic appendicitis. Though there was a large opening in the vagina, and the pelvic cavity was packed loosely with iodoform gauze, one end of which passed through the vaginal opening, and the other end through the lower angle of the abdominal wound, I came near losing the patient from retention and consequent absorption of purulent matter resulting from the breaking down of the stumps of the broad ligaments.

The success attending hysterectomy for this class of cases will, for obvious reasons, necessarily always be small. Still, if the operation be resorted to only within the above-stated limitations every successful case will usually mean a life saved, and failure will not mean that the patient's otherwise slender chance of recovery had been destroyed by the operation.

Up to the present time I have been able to collect eight cases of successful hysterectomies, by American operators, for acute puerperal septic metritis and endometritis. The cases of hysterectomies for septic conditions, to which the term "chronic" might be applied, and those in which there was a considerable collection of pus either in the appendages or in the pelvic connective tissue, not included in the following list:

1. Dr. A. Lapthorn Smith. One case. *American Journal of Obstetrics*, 1892, p. 43.
2. Dr. Howard A. Kelly. One case. *New York Medical Journal*, February 18, 1893.
3. Dr. W. R. Pryor. One case. *Transactions of the New York Obstetrical Society*, 1895, p. 291.
4. Dr. E. P. Davis. One case (quoted by Dr. J. M. Baldy). *American Journal of Obstetrics*, 1895, vol. xxxii, p. 1.

5. Dr. Peterson. One case (quoted by Dr. Baldy, *loc. cit.*).
6. Dr. C. B. Penrose. One case. *American Journal of Obstetrics,* 1896, vol. xxxiii, p. 678.
7. Dr. J. M. Baldy. One case. *American Journal of Obstetrics,* 1896, vol. xxxiii, p. 673.
8. F. B. Bicknell. One case. *Southern California Practitioner,* Los Angeles, 1896, p. 441.

Dr. Barton Cooke Hirst has reported several successful hysterectomies for acute puerperal septic conditions, but, so far as the writer has been able to learn, none of them truly belongs to the foregoing category.

Note.—On January 4, 1898, after this paper had been sent to the *Journal,* the writer performed a second abdominal hysterectomy for acute puerperal sepsis with a successful issue.

The history of the case was briefly as follows: A primipara thirty-nine years old was attended by two midwives and then by physicians from the New York Lying-in Hospital. The high forceps operation was performed. The patient was said to be septic at the time of delivery. She remained moderately septic until the eighteenth day of the puerperium, and then had three severe chills. She was desperately ill, but was denied admittance into several hospitals to which the husband applied. She was admitted into St. Mark's Hospital January 3, 1898, at 10 A. M. She was seen by the writer at 11 A. M. She was anæmic; her tongue was coated with a heavy white fur, rather dry; her abdomen was moderately distended and exquisitely tender everywhere. There was no lesion of the perinæum or of the vagina. The cervix was torn on the left side to the vaginal junction, but quite healthy looking. There was no exudate. The uterus was slightly larger than corresponded to the period of involution. Her temperature was 103.5°; respiration, 46; pulse, 120, small, weak, and irregular. The heart's action was weak and more rapid than the radial pulse. Curetting was performed under narcosis. Considerable *débris* and decidual tissue were removed. Intra-uterine irrigations were administered, and these were ordered to be repeated every four hours. Whisky was given freely, also cardiac stimulants. An ice coil was applied to the abdomen, and subcutaneous infusions of physiological salt solution were employed.

On the 4th, at 6 A. M., the temperature was 101°, pulse 110, respiration 38. From this on the patient's condition grew worse. At 6 P. M. the temperature was 103.6°; the pulse 130, intermittent and very weak; the respiration 48. The abdomen was very much more distended.

At 8 P. M. abdominal total hysterectomy was performed under ether narcosis. The parietal peritonæum was of a dirty-grayish color, as was also that covering the intestines. There was some turbid fluid in the free peritoneal cavity. The operation was rather difficult owing to the very great distention of the intestines. The abdominal cavity was freely irrigated with sterile salt solution. The pelvic cavity was packed with iodoform gauze, the ends passing through the vaginal and abdominal wounds.

Two pints of physiological salt solution were given subcutaneously during the operation. The patient left the operating table with a better pulse than that with which she had come to it.

On the 5th, at 8 A. M. (twelve hours after the operation), the temperature was 100°; the pulse 96, of fair quality and regular; the respiration 24. For the next three days the temperature ranged from 100.5° to 102°; the pulse from 96 to 120. After this convalescence was satisfactory and the patient was able to leave the hospital in good condition at the end of four weeks. The removed uterus was eleven centimetres long and nine centimetres wide at the fundus. On cutting it open, the interior was found covered with dark-colored *débris* closely adherent to the surface. A very small fragment of decidual tissue was found attached to the left cornu; otherwise the surface was smooth and devoid of mucous membrane. The wall of the uterus was rather thick, very soft, and friable. The annexa were apparently normal.

When the case was reported and the uterus shown at a meeting of the Obstetrical Section of the Academy of Medicine, February 24th, the question was asked whether the same favorable result would not have followed if the peritoneal cavity had been simply irrigated and drained without extirpating the uterus.

It is impossible to give a positive reply to the question, for we have as yet no data upon which to base an opinion. In this instance there was no good reason for trying to save the uterus, as the woman was near the end of the fruitful period (fortieth year), and, though she had been married a long time, this was her only pregnancy. The labor was difficult and the cervix was very badly torn. We had therefore a damaged uterus in a woman approaching the climacteric period. In a young woman the question, of course, would carry great weight. Still, it seems to me that where the infection from the uterus is so severe as to require a major operation the uterus should also be removed, both for the sake of free drainage and for the purpose of removing the gross source of the infection. The fact that the uterus may not show any marked changes in its walls does not argue that its removal was superfluous. The bacteria develop on the surface of the endometrium and pass through the uterine wall without producing any changes in it, as was observed by Bumm * in a case of most virulent peritonitis caused by septic endometritis.

If the rules sketched in this paper are followed, none but the most desperate cases and those in which other approved but less heroic measures have failed will be subjected to operative interference. Acting under these restrictions we shall have our hands full merely to save life, without stopping to consider whether the uterus should be saved or not.

The Fifth Annual Meeting of the Associated Health Authorities of Pennsylvania will be held in Lancaster on May 18th and 19th. Educational Hygiene will be the principal subject for discussion. It is expected that Governor Hastings, *ex-officio* president of the association, will be present at the opening ceremonies. Through the courteous invitation of the State board of health the Associated Health Authorities and the State Medical Society will on Friday, May 20th, pay a visit to the Marietta vaccine farms.

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* *Archiv für Gynäkologie,* xl, 3.

NOTE ON A CASE OF REMARKABLE EXAGGERATION OF THE SENSE OF AWE.

BY DAVID INGLIS, M. D.,
DETROIT.

I PRESENT the following case, believing that it illustrates the type of mind of the early ancestors of our race. It can easily be conceived how in a race whose mental attitude approximated that of my patient there should arise the worship of the great forces and phenomena of Nature.

My patient is a fairly well-educated woman, one of a family several members of which have shown more than the average mental force and capacity. As she was giving an account of years of neurotic invalidism I happened to bring out, by close questioning, a mental condition, of which she did not easily speak, which is as follows: From her earliest girlhood she has had a remarkable susceptibility to an intense emotional state brought on by witnessing a rainbow. She distinctly states that the feeling is not one of fear but of intense awe. The thing is so distressing that the mere recollection of it sets her into agitation. A showery summer day, with rainbows coming and going, is almost unendurable. A perfect bow with the end apparently visible in the foliage near by is especially powerful to affect her, and she carefully avoids passing a fountain or the spray of a garden hose on a sunny day, lest she should see the faint rainbow.

As a child she was ridiculed on account of this peculiarity.

Manifestly, her emotional state can not be accounted for by any intellectual fear of bodily harm, yet her whole description of the state brought about by this emotion corresponds to that frequently seen in persons who are badly upset by a thunderstorm.

It appears further that the red sunsets which followed the eruption of Krakatoa some years since produced an effect the same as witnessing a rainbow. The aurora borealis does the same, and a strange band of light across the heavens on a certain morning at sunrise did so also.

My patient is not what is known as a superstitious woman. She is a church member, but not of the extreme religious type. When we analyze these symptoms it is clear that we have to deal not with any new process, but an exaggeration of a common and familiar one. We none of us are entirely free from a certain sense of awe in the presence of these great phenomena of Nature. Cases of nervous panic or prostration during a thunderstorm are of common occurrence. While this is usually accounted for as caused by fear of bodily harm, many things seem to justify the belief that in many persons the feeling is not this but, as in my patient, a profound sense of awe and mystery.

There are many illustrations of analogous states—the fear of precipices, the feeling of reverence in presence of the mountains or the sea, etc. My patient seems to me to represent the probable mental state of early man before the intellect had reasoned out the causes and relations of natural phenomena. The average man reasons these things out, and, coming of generation after generation which has reasoned them out, he is born with a mind in which the fear of the great and strange forces of Nature is relatively small.

This patient is a reversion to an early type. She is an aboriginal.

That people with such mental states should fear and worship the sun and the stars and offer sacrifices to the powers and phenomena which appalled them is easily understood.

21 STATE STREET.

AN UNUSUALLY SUCCESSFUL RESULT OF THYREOID TREATMENT IN A CASE OF MYXŒDEMA.*

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FROM the great interest awakened in myxœdema of late years there has been generally diffused a knowledge of the nature of the condition, a familiarity with the main clinical symptoms, and a recognition of the means by which brilliantly successful results may be attained from appropriate treatment. It would seem that but little could be added, especially from reports of single cases, to the information already secured by the clinician with reference to diagnosis and management. I am prompted, however, to present the following somewhat imperfect report of a case that has recently come under my observation, as it exhibits a few rather unusual and interesting features. Unfortunately, I have found it impossible to secure photographs.

The patient is a lady fifty-four years of age, married, with two sons in excellent health at twenty-six and thirty-one years respectively. The family history is negative as regards grandparents. Father died of cerebral embolism at fifty-six; mother, of cancer at seventy-two, having been a sufferer for years from arthritis deformans. A brother is now in good health at fifty-seven, and a sister at fifty-two. One sister died of cancer of the liver at fifty-one. The previous history shows nothing remarkable. The patient was vigorous as a child. Menstruation began at fifteen and continued normal. There was a slight attack of malaria twenty-six years ago while residing in St. Louis, with no recurrences. She has lived in Denver twenty-five years and been in apparently perfect health until onset of the present trouble, the first symptoms referable to which are now recognized to have made their appearance eight or ten years ago, although no especial attention was given them at that time.

It was noticed that the patient began to grow sleepy, particularly in the latter part of the day. Sleep at night was heavy and profound. The tendency to drowsiness in the daytime became slowly but steadily more pronounced.

About four years ago she began to complain of languor and lassitude. There was an indisposition at all times to physical exertion, which, if indulged in to any extent, would be attended with considerable fatigue and palpitation of the heart. These symptoms have since progressively developed in degree.

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* Read before the Denver and Arapahoe County Medical Society, December, 1897.

Two years ago there was noticed a distinct change in the personal appearance, attributed at the time to an unusual accumulation of flesh. The face was said to be first affected, with a subsequent gradual involvement of the neck, arms, hands, feet, and finally the entire body. The constantly increasing swelling was soon recognized as being apparently directly under the skin, suggesting to the family and medical adviser the appearance of a dropsical condition. The skin gradually became extremely dry and rough, occasioning at first much annoyance to the patient.

About a year and a half ago she began to complain of feeling cold, even in warm weather and in a warm room. At this time a change in the mental condition became quite perceptible. With the impairment of the intellect there were no delusions or other evidences of insanity, but a gradual deterioration of the mental faculties, evidenced by some loss of memory, inability to comprehend simple things to the full extent, and marked slowness and hesitancy of speech. Coincidently a change in the voice had taken place. This had become husky and unpleasant to the ear. Failure to enunciate distinctly was likewise noticed, the sound being likened to that produced by the mouth more or less full. The gums had become sore and retracted to such an extent that all of the teeth had been lost, nearly all of them being perfectly sound. The loss of the teeth had been gradual, extending over several years, a complete new set having been secured nearly two years ago. "Watering of the eyes" has been a prominent symptom for a year and a half. With this there developed dimness of vision, impairment of taste, and slight deafness. Loss of hair has been very slight, and that only during the past year. The scalp was much complained of as feeling stiff, heavy, and solid. The patient had meanwhile become sensitive about a change in the complexion, frequently remarking about the yellow discoloration of the face.

During the past year all the symptoms have grown progressively worse. The mental torpor, slowness of speech, and difficulty of locomotion have become very marked, and the disfigurement of the features such as to cause the patient frequently to escape recognition by her friends. Her sensitiveness as to her condition was now very marked, and objections were made to further treatment.

The patient came under my care July 31, 1897. The case presented the characteristic symptoms of myxœdema already in part alluded to. Upon inspection, the features were enormously swollen, producing a decidedly gross appearance of the face. The nose was flattened and broadened, the lips bluish, with the lower considerably everted. Both eyelids were full and distended; the upper heavy and drooping, the lower thickened and pendulous. The cheeks were full, with obliteration of the lines giving expression or character to the countenance. The skin of the forehead was considerably wrinkled transversely. There was almost constant watering of the eyes (the patient holding a handkerchief in hand continually). There was a decided lemon discoloration of the face and neck. The tongue was much swollen and coated, the speech slow, indistinct, hesitating, and the voice husky. A marked swelling existed under the chin and upon the dorsal aspect of the hands. All movements were slow and deliberate. The mental hebetude was pronounced.

The chief subjective symptoms were numbness and pricking of skin, principally of lower extremities, coldness of feet, and frequent sharp burning sensations localized in a small area over the middle of each tibia. The patient stated that the soles of the feet felt as if she were standing upon blocks of ice, and described the burning spots upon the legs as if a lighted cigar had been pressed against the skin.

Upon further examination, the skin of the entire body was found to be extremely dry and harsh, fissured in some places and scaling in others. There was a sense of deep induration over the scalp, face, neck, hands, and ankles, the palms of the hands and the scalp being particularly tough and leathery. The hair was dry and coarse, with no appreciable loss, however. The nails were brittle, with cracked edges and grooved longitudinally. There was no pitting on pressure save slightly at the ankles. A brawny, indurated mass involved the entire upper front of the neck. The thyreoid could not be felt. The vision and hearing were somewhat impaired, and the sense of taste diminished. The temperature by mouth at 2 P. M. was 96.4° F. The pulse was weak, easily compressible, and difficult to detect. Physical examination of thoracic and abdominal organs was negative, and the urine was normal in all respects. I did not deem it wise to insist upon examination of the blood.

An interesting anomalous condition was noted in the distribution of the pigmentation. The discoloration of the face extended downward to the base of the neck, leaving a very distinct and even line of demarcation. Directly over the thyreoid, however, there was a sharply defined and circumscribed area devoid of all pigmentation. This space was rectangular in shape, about three inches and a half long and an inch and a half wide, extending from the front symmetrically over the sides of the neck. This space had been noticed for years, but had become much more marked during the past two years from the sharp contrast presented with the yellow discoloration of the adjoining skin.

The diagnosis of myxœdema was at once positively made and a favorable prognosis rendered. The diagnosis was subsequently confirmed by Dr. H. A. Lemen, who, although retired from professional work by reason of ill health, kindly consented to see the case in consultation, and being an old friend of the family rendered valuable assistance in securing the consent and cooperation of the patient.

Treatment was instituted August 3d, and consisted of complete rest and a two-grain tablet daily, two hours after breakfast, of the desiccated thyreoid extract prepared by Armour & Co. I decided upon the use of the tablets in preference to other thyreoid preparations, as being less objectionable to the patient, and began with those representing the weakest strength. After two doses the temperature was found to be 97.2° F. at the same time of day as before, and the pulse 72.

The next day, August 6th, the third day after beginning the treatment, an appreciable improvement was noted. There was a slight change for the better in the quality of the voice and in the distinctness of speech. Lacrymation was somewhat diminished. For the first time in many months was recognized a beginning feeling of returning strength. The pulse was 80 and of better quality. The temperature was 97.8°.

August 8th.—The evidences of improvement in these respects were still more pronounced. Pulse, 84; temperature, 98.4° F. An additional tablet in the afternoon was ordered.

11th.—There was a distinct change for the better in the mental condition. The patient was more inclined to converse, and manifested more interest in her condition. She had noticed a diminution of the swelling of the face and hands and promptly called my attention to it; she no longer felt cold, and was not drowsy during the daytime, but felt stronger and wanted to go out. Upon examination a very perceptible lessening of the swelling was noted, especially upon the backs of the hands, the eyelids, and the scalp. The skin was less dry and rough.

14th.—The improvement was still more marked. There was somewhat less discoloration of the face, with skin softer, intellect brighter, and expression more natural. The pulse was 90 and the temperature normal.

17th.—In the two weeks that had elapsed since beginning the thyreoid treatment, a remarkable improvement had taken place. With the diminution of the swelling, the change in the general appearance and expression of the face was very striking. There was marked increase in the activity of the mental faculties. Slowness of speech was much diminished, and enunciation had become quite clear and distinct, with the quality of the voice greatly improved. The tongue was diminished in size. Difficulty of locomotion and slowness of other muscular movements was considerably less. The patient was feeling stronger and animated, and sleep was natural. She no longer had cold sensations except upon soles of feet. There was but little eversion of lip. The temperature was normal and pulse 96. The dose was increased to four grains in the morning and two in the evening, and particular instructions given to notify me of the slightest change in her condition. The patient was not seen for four days.

21st.—A distinct change for the worse had followed the administration of the additional tablet. This had been attributed by the patient and family, however, to the extremely hot weather ensuing since my last visit. The expression was that of exhaustion, the countenance worn and haggard, the features pinched, and the eyes dull and sunken. The hands were somewhat emaciated, and there was rather free perspiration. Sleep was disturbed; temperature, 100° F.; pulse, 126 and feeble. The thyreoid was immediately suspended and quiet enjoined for two days, during which time she began to improve rapidly, the temperature returning to normal the second day, and the pulse to 114. The expression was better and the strength somewhat increased. Considering it demonstrated that the improvement had been occasioned by the suspension of the thyreoid, as the aggravated condition had been produced by the increased dose, I now prescribed a tonic of iron, quinine, and strychnine, and ordered two grains of thyreoid every other day for five days, followed by the administration of two grains one day, and one grain the next, until September 5th.

At this time, one month after treatment was begun, the improvement had become sufficiently marked in every respect to justify the statement that an apparent almost complete return to a normal condition had been secured. The family and friends maintained that her general appearance and manner were as natural as ever. There was an entire disappearance of the myxœdematous swelling in all parts of the body. The discoloration of the face was but scarcely noticeable. The expression was animated and manner more or less vivacious, with moderate activity in muscular movements. There was a feeling of vigor, almost of buoyancy. The voice was natural and conversation fluent. There was no eversion of lip, and the tongue was apparently normal, being diminished at least one third in size. Both hearing and vision were excellent. The burning sensations upon lower extremities were less frequent and less severe. A loss of thirty pounds in weight had taken place. The skin was perfectly soft. The pulse was averaging about 86, and the temperature was invariably normal.

The indications now being chiefly to retain the gain already made, the patient was kept under fairly close observation for the next month. During this period two-grain doses of the thyreoid were given each alternate day, with part of the time one grain on the succeeding day, and occasionally two grains. On each day that the thyreoid was omitted the temperature became subnormal.

During the following, or second, month of treatment ending October 3d, there was exhibited a distinct gain in strength, without the slightest return of any of the myxœdematous symptoms. As the improvement became more fully established several peculiarities were noted, as follows:

1. Desquamation of the palms of the hands and soles of the feet, the thick skin peeling off in large patches.
2. Frequent choreic movements of the lips, nose, and eyebrows. Close inquiry elicited the information that this mild chorea had persisted from childhood until several years ago, at the time of the development of the myxœdema.
3. An increased loss of hair during the first two or three weeks of improvement, subsequently ceasing altogether.
4. A gradual disappearance of the patch over the thyreoid. The transformation in the character of this unpigmented area was recognized, first, by the lessened discoloration of the adjoining skin; then by the broken irregular edges, in place of the sharply distinct line of demarcation; and, finally, by its more complete obliteration, save on close and careful inspection.
5. The formation of a well-defined transverse ridge at the root of each finger nail, which subsequently extended with the growth of the nail to its distal edge.

At the present time, January 3d, five months after treatment was instituted, the improvement early secured has been in all respects maintained, the only fact worthy of note being the necessity for gradually increasing the thyreoid to five grains daily in order to preserve a normal temperature.

In reviewing the history of the case special attention is called, because of the practical significance, to, first, the remarkably short period of treatment; second, the brilliant results attained from unusually small doses of the thyreoid; and, third, the danger attending the indiscriminate and injudicious administration of the larger doses, especially with the patient not under constant and competent observation.

Therapeutical Notes.

Carbolized Adhesive Plaster.—L. Adrian (*Journal de médecine de Paris*, February 13, 1898) gives the following formula:

℞ Simple adhesive plaster	19 parts;
Carbolic acid	1 part.

Mix.

Salicylized Adhesive Plaster.—L. Adrian (*Journal de médecine de Paris*, February 13, 1898) gives this formula:

℞ Simple adhesive plaster	95 parts;
Salicylic acid	2 "
Lard	3 "

Melt the plaster and add the acid and lard mixed.

Iodoformized Adhesive Plasters.—L. Adrian (*Journal de médecine de Paris*, February 13, 1898) gives two formulæ, as follows:

1 (ten-per-cent.).

℞ Lead plaster	65 parts;
Suet	10 "
Dammar balsam, Pine tar, each	7 "
Venice turpentine	1 part;
Iodoform, in very fine powder	10 parts.

Melt together all the ingredients except the iodoform, allow the mixture to cool, and, when it is almost solid, add the iodoform.

2 (twenty-per-cent.).

℞ Lead plaster	55 parts;
Suet, Yellow wax, Dammar balsam, Pine tar, each	6 "
Venice turpentine	1 part;
Iodoform, in very fine powder	25 parts.

Melt together all the ingredients except the iodoform, allow the mixture to cool, and, when it is almost absolutely solid, add the iodoform.

Iodolized Adhesive Plaster.—L. Adrian (*Journal de médecine de Paris*, February 13, 1898) gives the following formula:

℞ Lead plaster	65 parts;
Suet	3 "
Yellow wax, Dammar balsam, Pine tar, each	7 "
Venice turpentine	1 part;
Powdered iodol	10 parts.

Melt together all the ingredients but the iodol, allow the mixture to cool, and, when it is almost solid, add the iodol.

Corrosive-sublimate Adhesive Plaster.—L. Adrian (*Journal de médecine de Paris*, February 13, 1898) gives this formula:

℞ Corrosive sublimate	2 parts;
Alcohol	10 "
Castor oil	15 "
Adhesive plaster	100 "

Melt the plaster, dissolve the corrosive sublimate in the alcohol, add the castor oil to the solution, and then pour the mixture into the melted plaster.

Iodoformized Rubber Plaster.—Schneegans and Corneille (*Journal de médecine de Paris*, February 13, 1898) are credited with the following formula:

℞ Dammar balsam	15 parts;
Benzoinated suet	30 "
Anhydrous lanolin	20 "
Rubber	5 "
Glycerin	10 "
Iodoform	20 "
Benzene or ether (to dissolve the rubber)	45 "

Melt together.

Boric-acid Rubber Plaster.—Schneegans and Corneille (*Journal de médecine de Paris*, February 13, 1898) are credited with this formula:

℞ Dammar balsam	20 parts;
Benzoinated suet	25 "
White wax	15 "
Rubber	8 "
Anhydrous lanolin	12 "
Powdered boric acid	20 "
Benzene or ether (to dissolve the rubber)	72 "

Melt together.

Ichthyol Rubber Plasters.—The following formulæ are attributed to Schneegans and Corneille (*Journal de médecine de Paris*, February 13, 1898):

1. ℞ Dammar balsam, Benzoinated suet, Yellow wax, each	5 parts;
Rubber	2 "
Anhydrous lanolin	3 "
Ichthyol	5 "
Benzene or ether (to dissolve the rubber)	18 "

Mix.

2. ℞ Dammar resin, Benzoinated suet, Yellow wax, each	20 parts;
Rubber	8 "
Lanolin	12 "
Ichthyol	20 "
Benzene or ether (to dissolve the rubber)	a sufficiency.

Mix.

The Treatment of Tapeworm.—The *Gazette hebdomadaire de médecine et de chirurgie* for March 6th credits the following to E. Chamberlin:

℞ Alcohol containing ten per cent. of chloroform	8 parts;
Rectified oil of turpentine, Ethereal extract of male fern, each	4 "
Glycerin	15 "

M. Half a tablespoonful to be taken every hour. Before beginning the use of this mixture the patient should take castor oil or magnesium sulphate, and as soon as a purgative effect is produced the mixture may be taken. For very young subjects, for example, children two years old, the formula may be modified as follows:

℞ Alcohol containing ten per cent. of chloroform, Rectified oil of turpentine, Extract of male fern, each	2 parts;
Glycerin	15 "

M. S.: A teaspoonful every hour.

An Ointment for the Pruritus of Ciliary Blepharitis.—Landolt's formula, as given in the *Gazette hebdomadaire de médecine et de chirurgie* for February 27th, is as follows:

℞ Neutral lead acetate	3 grains;
Cocaine hydrochloride	4½ "
White vaseline	90 "

M. S.: To be smeared on the border of the lid.

Aromatized Cod-liver Oil.—Duquesnel's formula is given as follows in the *Revue des maladies de l'enfance* for March:

℞ Amber-colored cod-liver oil	100 parts;
Oil of eucalyptus	1 part.

M. This mixture is said to taste only of eucalyptus and to be free from any disagreeable odor.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton and Company.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, APRIL 2, 1898.

THE MEDICAL CORPS OF THE NAVY.

If the exigency of war really comes upon us, the medical corps of the navy, no matter to what extent it may require to be enlarged, will be filled, and it will be filled with good men. But those men will enter it under the impulse of patriotism, and not with the purpose of attaching themselves permanently to the navy, for the inducements are too small. Medicine, like all other commodities, obeys the law of demand and supply; if the inducement is small and the service is made irksome, the supply will remain short under all circumstances but those of war. There may be some young physicians who are entertaining the thought of entering the corps, not being aware of the gloomy prospect before them if they follow out their intention. For their benefit we will state a few facts. The total number of assistant surgeons and passed assistant surgeons now authorized by law is 115, and the major limit of age on entering the service is thirty years. Taking the case of a physician who enters at the age of thirty, we may readily see that he will be fortunate if he reaches the grade of surgeon by the time he is fifty-five years old. In the intervening time his highest pay will be $2,200 per annum, and most of the time it will be less, while he will have to keep his end up in a mess that is apt to be more expensive than his remuneration warrants. Moreover, there is no security that even this situation will not be made worse at any time; it is only a short time ago that by the barest chance Congress failed to pass a bill that, had it been enacted, would have reduced the pay of all staff officers, medical officers included, to such an extent that many of them would have been forced to resign.

In our issue for March 19th we ventured to express the hope that gentlemen who might enter the medical corps of the navy as acting assistant surgeons for the emergency would be recognized as officers, and so made eligible as recipients of any medals and other rewards to which they might show themselves entitled in actual service. We fear that that hope will not be fulfilled. A gentleman who has felt an interest in this matter has taken the trouble, he informs us, to collect a number of cases of heroism on the part of medical officers, but he finds that they have all been carefully ignored, while line officers have received recognition of all kinds for achievements of minor importance. The country must finally wake up to the injustice of all this, and we have no doubt that a remedy will come in time, but at present the prospects of a young man who enters the medical corps of the navy are not satisfactory.

It is nonsense for the government to give out that the difficulty it finds, and has found for years, in making any near approach to filling the corps is due to the stringency of its requirements. We have no hesitation in saying that the examinations for the medical degree are more exacting at any one of at least five of our medical schools than those that a man has to pass in order to enter the medical corps of the navy. It is the insufficient pay and the natural aversion to being treated as underlings that keep men out of the service. If war comes—and we hope it will not—it may at least have the good effect of opening the eyes of congressmen to the desirability of making the naval medical service attractive enough to keep the corps filled with suitable men.

THE AMENDED SPOONER BILL.

We have been favored with a printed copy of an amendment "intended to be proposed" by Mr. Spooner to his bill (senate bill No. 2680) amending "an act granting additional powers and imposing additional duties upon the Marine-Hospital Service," approved February 15, 1893. It seeks to establish a national commission of public health, to be composed of a commissioner, of representatives of all the State and Territorial boards of health (one for each board), of the surgeon-general of the army, of the chief of the bureau of medicine and surgery of the navy, and of the supervising surgeon-general of the Marine-Hospital Service, "or such other medical officer from either service as may be designated by the chief thereof," with the approval of the President, the commission to be a bureau of the treasury department. The commissioner, who is to be the executive officer of the commission, is to be appointed by the President, with the consent of the senate, and his term of office is to be six years. It is stipulated that he must be a physician holding a diploma from a legally incorporated medical college in good standing, must have had at least ten years' experience in the practice of his profession, must be "learned in sanitary science" and "practically familiar with quarantinable diseases," and must be a member of one or more reputable sanitary or medical societies in the United States. The amendment provides also for an assistant commissioner with similar qualifications, and for an executive committee consisting of nine members of the commission—namely, the commissioner and the representatives of the army, the navy, and the Marine-Hospital Service, *ex officio*, and five members to be elected by the commission, the term of office of the elected members to be a year.

It is provided that "the executive committee may be convened by the commissioner whenever in his judgment the public interest shall so demand, and the said executive committee shall be convened by the commissioner when any three members thereof shall in writing so request." When the commission is not in session this executive committee is to have full power to modify the regulations adopted by the commission and to make new regulations, and the regulations as modified or made by the committee, when approved by the President of the United States, are to have the same force and effect as if they had in the first instance been adopted by the commission. The commission is to meet annually in January, in Washington, and at such other times as in the opinion of the secretary of the treasury the condition of the public health demands. No meeting of the commission shall last more than six days unless a longer session is authorized by the President.

It is useless to follow the provisions of this twenty-four page amendment further. Enough of them has been given here to show what a cumbrous and shifting organization the amendment would provide us with in lieu of the compact and efficient Marine-Hospital Service which now administers the sanitary affairs of the country so far as national action comes into play. The Marine-Hospital Service's administration of those affairs is satisfactory, and, with the passage of the Caffery bill, which aims to give the service increased resources and a broader scope, it will be yet more efficient. Let us not cast it off for a composite and ever-changing commission with its members scattered over the country, from Maine to Texas and from Alaska to Florida. We want no debating society to take charge of executive work.

MINOR PARAGRAPHS.

HOW A DOCTOR'S PERSONAL APPEARANCE MAY AFFECT HIS PRACTICE.

The *Lyon médical* speaks of a young American ophthalmologist who had operated on an old gentleman for cataract. As soon as the old fellow was able to see, he was in great haste to have a look at his preserver. But the face disappointed him; the man was too young. "It is all the better for you, doctor," he exclaimed, "that I couldn't seen you before; you are too young and I never should have chosen you as a physician!" How sublime, remarks our contemporary, was this heartfelt cry from a man whose sight the surgeon had just restored, and what a gauge it is of human foolishness!

A TYPICAL AMERICAN MOTHER.

The *Progrès médical* quotes a plea recently made by a Georgia lady, whose son had died in consequence of injuries received in an intercollegiate game, against the passage of a law prohibiting the game. It calls the letter a surprising protest and a curious plea, but it justly remarks that the letter paints American mothers in a light worthy of antiquity. The lady's letter has been widely read in the United States, but it has called forth very little comment; almost everybody recognizes that its sentiment is that of the typical American mother.

THE PHILADELPHIA *MEDICAL AND SURGICAL REPORTER.*

The first number of the seventy-eighth volume of this well-known and highly esteemed Philadelphia weekly, dated March 12th, is enlarged as regards the size of the page and is without the yellow cover with which we have been familiar for years. The change is a decided improvement.

LEFTHANDEDNESS CURED BY SUGGESTION.

Rothschild (*Jahrbücher für Psychiatrie*, xvi, 3; *Wiener klinische Wochenschrift*, March 10, 1898) relates the case of a left-handed girl, four years old, well developed and of a healthy family, whom he cured by hypnotizing her and suggesting to her to use her right hand. She began at once to use the right hand oftener than the left, and at the time of the report, two years and a half later, she continued righthanded.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 29, 1898:

DISEASES.	Week ending Mar. 22.		Week ending Mar. 29.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	7	0	15	2
Scarlet fever	195	17	173	18
Cerebro-spinal meningitis	2	1	3	1
Measles	..	..	..	..
Diphtheria	166	28	163	26
Croup	10	4	4	2
Tuberculosis	163	112	195	115

A Pay Hospital in Philadelphia for the Treatment of Contagious Diseases.—In Philadelphia a company has been organized, and is now endeavoring to build and equip a hospital for the treatment of contagious diseases that will cost in the neighborhood of $100,000. A new feature in the management of the proposed hospital is that all patients must pay according to their means, and may have the privilege of choosing their own physicians. It would seem that at the present time there is a crying need for just such an institution in all cities, for it will greatly facilitate prompt and effective measures in dealing with diseases of this nature, and have a beneficial effect on a neighborhood where these cases occur.

Among the directors are Dr. George M. Gould, Dr. J. Madison Taylor, Dr. Frederick P. Henry, Dr. Edwin Graham, and Dr. Edwin Rosenthal.

The Ex-Internes of the Long Island College Hospital, we learn from the *Brooklyn Medical Journal*, have formed an association for the perpetuation of hospital memories, with

Dr. F. E. West for president and Dr. B. O'Connor for secretary. They held a dinner at the Clarendon Hotel on March 30th.

Pulmonary Hæmorrhage following Violent Exercise.—A lad sixteen years of age, while recently taking violent exercise at the Young Men's Christian Association gymnasium in Philadelphia, was so unfortunate as to have a pulmonary blood-vessel rupture. This was followed by a severe fit of coughing and by hæmorrhage, from the effects of which he died shortly afterward.

Septicæmia from a Child's Bite.—While recently performing an intubation upon a child suffering from membranous croup Dr. Dowling W. Benjamin, of Camden, New Jersey, was unfortunate enough to have his finger caught between the child's teeth, causing a painful lacerated wound from which septicæmia followed. The wound was subsequently opened and cauterized, and at last accounts the doctor was reported as being out of danger.

The Medical Department of Fort Worth University.—The *Texas Courier-Record of Medicine* announces that the fourth annual commencement exercises will be held in Greenwall's Opera House on the evening of April 7th.

Changes of Address.—Dr. F. N. Emmert, from Rutland' Vermont, to No. 109 West Eighty-fourth Street, New York; Dr. S. O. Goldman, to No. 225 West Forty-fifth Street, New York; Dr. Duncan Macpherson, to No. 446 Manhattan Avenue, New York; Dr. John S. Waters, to No. 156 West Eighty-fourth Street, New York.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending March 26, 1898:*

HENEBERGER, L. G., Surgeon. Detached from the Maine and ordered home to await orders.

GRIFFITH, S. H., Surgeon. Detached from the Museum of Hygiene, Washington, and ordered to the Mayflower.

Society Meetings for the Coming Week:

MONDAY, *April 4th:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Alban's, Vermont, Medical Association (annual); Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; South Pittsburgh, Pennsylvania, Medical Society; Chicago Medical Society (annual).

TUESDAY, *April 5th:* New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Broome (quarterly) and Niagara (quarterly—Lockport), N. Y.; Essex (annual—Newark), Hudson (Jersey City), and Union (annual—Elizabeth), N. J., County Medical Societies; Androscoggin, Maine, County Medical Association (Lewiston); Chittenden, Vermont, County Medical Society; Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, *April 6th:* New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, N. Y. (Stapleton); Penobscot, Maine, County Medical Society (Bangor); Bridgeport, Connecticut, Medical Association; Springfield, Massachusetts, Medical Club (private).

THURSDAY, *April 7th:* New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Atlanta Society of Medicine; Medical Society of City Hospital Alumni (formerly City Hospital Medical Society) of St. Louis; Eastern Hampden Medical Association (Springfield, Massachusetts).

FRIDAY, *April 8th:* New York Academy of Medicine (Section in Neurology); Yorkville Medical Association, New York (private); Brooklyn Dermatological and Genito-urinary Society (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, N. Y.

SATURDAY, *April 9th:* Obstetrical Society of Boston (private).

Births, Marriages, and Deaths.

Married.

DUPREE—ANDERSON.—In Holly Springs, Mississippi, on Thursday, March 24th, Dr. John A. Dupree and Miss Maud Anderson.

EMBREY—LINDSAY.—In Gainesville, Texas, on Tuesday, March 22d, Dr. Wiley S. Embrey, of Winchester, Tennessee, and Miss J. M. Lindsay.

Died.

BASSETT.—In New York, on Wednesday, March 23d, Jay Lester Bassett, son of Dr. John S. Bassett, in the twenty-third year of his age.

BENOIT.—In Montreal, on Thursday, March 24th, Dr. Frederick Laurent Benoit, in the sixty-first year of his age.

DWYER.—In Hartford, Connecticut, on Monday, March 21st, Dr. John Dwyer.

Letters to the Editor.

THE CITY BOARD OF HEALTH AND THE DRUG BUSINESS.

62 EAST THIRTY-FOURTH STREET,
NEW YORK, *March 18, 1898.*

To the Editor of the New York Medical Journal:

SIR: The infallible sign of a bad cause is a perversion of the truth. An erroneous statement or a hasty and faulty conclusion is common enough among the partisans of both sides of a disputed question, for not to many men is given the gift of building the subtle bridge of conviction from accurate premises to sound and unassailable deductions. Thus, men who reason badly may argue honestly, and many a mistaken assertion may be prompted by a profound veracity of motive. Not so, however, when in the compass of a brief plea we observe a succession of misstatements, of assumptions that will not bear a moment's analysis, of dogmatic assurances which bristle with slovenly inaccuracies, of misrepresentations which stamp their author as a not too dainty partisan and special pleader.

Dissenting from the almost unanimous opinion of the medical press of America, the New York *Medical News,* in an editorial, energetically opposes the bill introduced by Senator Brush into the New York legislature for the purpose of preventing the city board of health's sale of diphtheria antitoxine all over the United States in competition with private enterprise. The *News* has a full right to the expression of its convictions, but in reading its utterly unsupported statements one can not repress a feeling that it has rendered a sorry service to its friends.

It is first alleged by the *News* that the New York board of health has provided the profession of New York city with "the best diphtheritic serum to be had anywhere in the world." This statement is radically wrong. It has never been true. The board's serum does not surpass and has never surpassed that made in other laboratories. Better serums—more concentrated and stronger in antitoxine—have been placed at the disposal of the New York profession by private producers; and among the very poorest serums sold in America is to be included the feeble product (one hundred units to the cubic centimetre) wherewith the board has been able to compete successfully in price while bidding for patronage from Maine to California.

The best serum ever produced and sold by the board possessed a potency not in excess of 500 units to the cubic centimetre, whereas for nearly a year private manufacturers have been offering freely a 750-unit serum; parcels of 1,000-unit antitoxine have not been rare; and in one of the leading biological laboratories of the West serum possessing the amazing power of 2,000 units to the cubic centimetre has been produced. So much for the scientific leadership of the board. What that body requires is greater diligence and modesty in learning, and less vanity in assuming to teach.

"All the producers of reliable antitoxine in this country are directly indebted to the laboratories of this department for assistance in the production of this remedy, if, indeed, they are not wholly dependent upon it for the instruction and the encouragement they received there." This lofty statement has a fine sound, but it is untrue, every word of it. Behring and Roux read their memorable and epoch-making papers at the International Medical Congress held in Budapesth in September, 1894. On November 7, 1894, work was begun, to my certain knowledge, in one large laboratory, and at about the same time several others made their first inoculations. I am emphatically assured by the leading American producers that their work was well under way before they ever saw the laboratory of the New York health board; that they never borrowed so much as a single culture from them; that their work is under the direction of men who possessed reputations as scholarly expert bacteriologists and teachers before antitoxine was ever heard of; that, when they desired on one occasion a special culture which the board was supposed to possess, it was offered at an extortionate price and promptly declined; and they indignantly resent the insinuation that they owe the board anything but an annoying and unjust competition carried on with a subsidized product whose cost of manufacture is defrayed by the public purse.

It is not surprising that the same effrontery which declares without a vestige of truth or warrant that the laboratory of the board has "surpassed the laboratories of the world in producing the best grade of antitoxine" should make the preposterous statement that "with the glycerinated vaccine pulp now employed by the board of health such results are obtained in primary vaccination as to surpass all previous experience." The board has not produced a single vaccine product which has not been in extensive use for years all over central Europe. This is essentially true of the glycerinated lymph, which has long been employed in central Europe to the exclusion of every other vaccine.

"There is no other producer of vaccine virus in New York State." What broad and patriotic Americanism this ignoble statement evinces! Let the board wage its unjust and socialistic competition against the citizens of other States; what care we for the rights of other commonwealths in our great country? But, at all events, let it not be forgotten that, if New York has no private producers of vaccine, it is chiefly because private capital and private enterprise very properly shrink from a form of competition which, operating under a handsome appropriation, can fix its selling rates at pleasure while loftily disdaining all considerations of producing cost. True, there are no other vaccine plants in New York State—and in the pernicious activity of the New York board must be sought the principal cause.

"All antitoxines other than diphtheria antitoxine are as yet largely experimental. No commercial house can afford to undertake and carry on such experimental investigations as are necessary to determine the methods of production and the value of the efficiency [*sic*] of such products." This statement is false, as I shall abundantly prove. It is a gratuitous slur upon our great manufacturing laboratories, and it meanly appeals to the base and narrow prejudice which small minds permit themselves to cherish against great scientific enterprises which shed lustre on American industry.

Now to our proofs. The tetanus antitoxine is one of those which may be regarded as yet in the category of the largely experimental, requiring further investigation, bacteriological and clinical. A number of very interesting reports attesting its efficacy have appeared in the best medical journals. In almost every instance the author has properly taken pains to give the name of the producer, and for every single mention of the antitetanic serum of the New York board there have been at least five references to other brands. I could safely offer to show a larger ratio, but prefer to understate the glaring discrepancy. So, too, with the antistreptococcic serum; for every mention of the board's product in trustworthy clinical reports I guarantee to produce at least five favorable references to other brands. And I defy anybody to disprove the emphatic assertion that of the considerable quantities of antitetanic and antistreptococcic serums employed in the United States, the products of the board have been issued in but an insignificant fraction of cases.

The statement that commercial houses can not afford financially to carry on experimental investigations has been refuted so often and is so utterly untrue that its only office at the present time is to exhibit the amazing vitality of an adroitly managed falsehood. In the domain of synthetic chemistry, in manufacturing pharmacy, in the production of biological products, the prosecution of original research work is not only frequent and lucrative but absolutely indispensable, if the manufacturer is to make front against the warfare of keen, able, and untiring competitors. It is the condition of his growth. It is his only salvation. And even where it proves barren of direct financial returns, it yields a handsome if indirect profit in the form of augmented reputation.

Thus, the invention of antipyrine, acetanilide, and phenacetine; the isolation of active principles from many important drugs; the introduction of new medicinal agents obtained in distant lands; the great progress achieved in rendering our pharmaceutical preparations more uniform and reliable; the introduction of physiological assay methods; the presentation of powerful drugs in forms which are shorn of untoward or dangerous after-effects; the production of concentrated antitoxines which only two years ago would have been regarded as laboratory curiosities—these are only a few of the fruits of those experimental investigations which commercial houses are pronounced unable to conduct.

Is it not plain that Germany owes its astounding industrial career to the wedding of commercial enterprise with scientific research—to the hosts of chemists, bacteriologists, engineers, and physiological investigators employed in the manufacturing laboratories? And are our great captains of industry too blind or too stupid to follow in their footsteps? American houses "financially unable to carry on experimental investigation!" They are constantly doing it.

The *News* speaks, further, of "the high position of the board as an authority in pronouncing upon the quality of biological products manufactured in other laboratories, and, finally, of its superb results secured in reducing the death-rate in the city of New York to a percentage unparalleled in its history." More fine-sounding language of the Talleyrand sort, the kind that conceals truth. I have not a word to say in disparagement of either Dr. Biggs or Dr. Park. They are both able men and good bacteriologists, but they have their peers in every leading university in the United States. There are a score of expert bacteriologists in this country whose dictation on some disputed point would carry every bit as much weight as the pronouncement of either one of these worthy gentlemen—indeed, much more weight, for, as they have no personal interest in a commercial serum-selling plant, their statements would be received as the more disinterested. It may also be asked, upon what biological products these authorities have pronounced. Has any one ever heard of their performing a series of competitive tests? What inferior serums have they exposed? To what reliable brands have they graciously applied the stamp of their "authority"? In England the *Lancet* appointed an antitoxine commission which in good time pronounced most of the serum on the British market to be utterly weak and worthless. That was indeed a great service to science and humanity. Why has our would-be American "authority" failed to do likewise? Why does it not back up its pretensions by actual performance? Why does it justify the assertion that, so far as "pronouncing upon the quality of biological products" is concerned, this self-constituted oracle is an ignominious failure?

As for the "superb results" in reducing the death-rate from diphtheria in New York city, here we have another empty phrase parading as a fact. True, the serum treatment has lessened mightily the ravages of diphtheria in New York, as it has everywhere else. But the showing in New York city, the reduced death-rate, the actual statistics, in no wise surpass—indeed, they do not equal—those relating to some other municipalities. I refer particularly to Chicago, where a pre-antitoxine mortality of thirty per cent. was reduced by the employment of various brands of antitoxine to six sevenths of one per cent. during 1897. Far be it from my thought to cast a slur on the antitoxine of the New York board: some of its product is good serum; but it is idle and ridiculous to pretend that its best serum is better than other reputable brands. I insist that its best serum does not equal, in point of concentrated potency, the best serums of private producers, and it has certainly not yielded the same brilliant service in effacing the death-rate of the past.

"As there are only three producers of diphtheria antitoxine in this country, the probabilities are that if the New York city board of health is restrained from manufacturing this product the price will soon be placed beyond the reach of all except the very rich." Behold the great bugbear with which the board's partisans are frightening the heretics who do not believe that the municipality should embark in the drug business. Only three producers! We count four in the advertising pages of the *News* alone, to say nothing of the American agents for the Roux and Behring serum, or of the various municipalities, such as those of Boston, Philadelphia, and St. Louis, which produce serum for the use of their indigent sick. The probable increase in price following the withdrawal of the New York board from the general market is a myth unworthy of serious discussion. Not only has the consumer's price for serum steadily declined, but, furthermore, I can state on the best authority that one of the largest producers is now contemplating a material decrease in price, without regard to the fate of the board. The "antitoxine trust" will do service as a watch-cry or a bugbear, but it has no basis in fact.

The Brush bill, which is now before the committee, does not prohibit the manufacturing of these toxines, but it should. The bill leaves the board free to make all the antitoxines for the indigent sick of the city. This is also wrong, because the board can purchase for one sixth of the price for manufacturing all the antitoxine required for this purpose.

This bill does suppress the odious features of the board's work. It declares that they may make all the serum required for the suffering poor, just as our prisoners may make shoes for the inmates or furniture for the offices of State functionaries, but they shall not be free to sell antitoxine to every druggist and doctor for consumption by patients who can afford to pay; nor will they go with a subsidized product to every municipality in New York State and in the United States for their patronage in competition with houses that have their hundreds of thousands invested in producing laboratories. This is the essence of the Brush bill, and no honest, fair-minded man can gainsay its justice or the propriety of its enactment. But it does not go far enough—it should protect the taxpayer and save him about sixty thousand dollars a year, by doing away with a large plant for manufacturing toxine and vaccine virus which can be procured for experimental work and for the poor of the city from no fewer than half a dozen laboratories of this and other countries for seven or eight thousand dollars.

Let the board of health of New York city act as experts, not as manufacturers. They will then command the respect of the profession and the pharmacists, and their usefulness to the community will be doubly enhanced and the medical profession will give them their undivided support. A. M. Phelps, M. D.

Miscellany.

The Sixth Annual Commencement of the Ohio Medical University (*Columbus Medical Journal*, March 15, 1898) will be held on Tuesday, April 5, 1898. The chancellor of the university, Dr. J. F. Baldwin, will preside over the exercises of the evening. The principal address will be delivered by Professor Albert Mann, of the Ohio Wesleyan University, and the address on behalf of the faculty by Dr. W. J. Means. This year has been no exception in the phenomenal development of the university. The total enrollment in all departments has been 335, and the candidates for graduation in the several departments are as follows: Medical, 97; dental, 15; pharmaceutical, 5; total, 117.

The New Emergency Hospital in Toronto.—The trustees of the Toronto General Hospital (*Canadian Practitioner,* March, 1898) have decided to establish a branch in the southern portion of the city. A great part of the accidents occur in the vicinity of the railways and the neighboring manufacturing establishments, and the hospital authorities desire to have a branch in that locality where injured patients may be admitted and treated temporarily. The similar hospitals in New York and Buffalo have been investigated, and the necessary alterations in a building selected on Bay Street are being carried out rapidly.

The Late Sir Richard Quain.—Several of the London newspapers give appreciative accounts of the late Sir Richard Quain. From the *Times's* article we extract the following:

"For nearly fifty years Sir Richard Quain held a unique position in London professional and social life. There have been physicians as eminent and as fully occupied in practice, but not one who has lived on the same terms of close and cordial friendship with many of the most distinguished men of two generations. It is almost a history to say that his portrait was painted by Maclise in 1866, and by Millais, as his last work, in 1896. In the intervening time he may be said to have known everybody worth knowing and seen everything worth seeing. His library contained presentation copies of the works of Carlyle, Dickens, Forster, Sir Theodore and Lady Martin, and many other writers of renown. Sir Edwin Landseer was among his most intimate friends; and he esteemed as his chief treasures a pair of silver bowls, which were presented to him by the members of the Garrick Club at a special dinner given in his honor. An Irishman of the best type, always genial, always kindly, always amusing, an admirable *raconteur* and after-dinner speaker, Quain frequented most societies and was welcome in all. During the last two or three years the infirmities of age were beginning to tell upon him, and the acuteness of his hearing had declined; while, during the first half of 1897, he became the subject of a painful and exhausting malady for which he underwent several operations with unfailing cheerfulness and courage. Even those who knew him best, and who therefore expected most from him, were surprised at the determination to fulfill his duty which brought him from a sick-bed to preside over the session of the Medical Council in May, 1897; and, when bed could be left no longer, he retained to the last his interest both in the work of the council and in many other public questions, and frequently dictated letters and memoranda with regard to them.

"As a medical practitioner, his place can hardly be settled by his contemporaries. He was accustomed to say that, if he had been physician to a great general hospital, fatty degeneration would have been spoken of as 'Quain's Disease,' and there can be no doubt that he missed much by not being a teacher. His great power was probably that of rapid perception, of seeing, almost intuitively, the nature of a malady; and this power, which led him sometimes to brilliant successes, was, in exceptional cases, a source of persistence in error which more detailed investigation might have avoided. From the point of view of the patient he was everything that could be desired. Always cheerful, always hopeful, he had the gift of adapting his discourse to the mental and bodily condition of the hearer; and he had the still greater gift of never being in a hurry, and of never seeming to be impatient. How his leisure was obtained, and how he crowded into the available hours the work of his ordinary day, were mysteries which few could fathom; but, when he was in a sick-room, it is certain that he did not appear to have a thought beyond its boundaries, or that was not devoted to the welfare of the sufferer whom he was called upon to aid. He has been, in many respects, one of the most conspicuous figures of his generation; and he leaves, in many circles, a vacancy which it will not be easy to fill."

The *Chronicle* says:

"Official appointments followed rapidly [on his marriage], and soon Dr. Quain had achieved a high reputation and a large consulting practice. All ranks of society flocked to his cheerful presence, and few went away unbenefited. He was the friend as well as the physician of Mr. Delane, the brilliant editor of the *Times,* who was a sufferer for twenty years from a painful complaint. Edmund Yates parodied appropriately the epitaph of Matthew Prior in favor of Dr. Quain:

"'Not to physics a drudge, not to patients a slave,
He strives to make business and pleasure agree;
At a crisis collected, cool, skillful, and grave,
And alone with his friends, Lord, how merry is he!'

"From early years he was popular, a fact which sometimes led jealous people to attribute his success to his social gifts rather than to the undoubted ability of the man. In 1860 he was nominated a member of the Senate of London University, and three years later he was appointed Crown representative on the General Medical Council. This latter step was of immense advantage to the council, on which Sir Richard served with increasing zeal. He acted as treasurer of that body for a while, and was elected president seven years ago, receiving renomination as a compliment to his admirable work thereon. In the course of his career he received so many honors that it is difficult to enumerate them all. He was vice-president of the Royal College of Physicians, and only lost the presidency by eight votes in a full assembly. The cause of his defeat, which was a source of considerable mortification to Sir Richard, was said to have been the injudicious allusions, made ostensibly on his behalf, in the press. He held the presidency of the Pathological Society, of which, indeed, he was the founder. Another learned society over which he presided with that innate dignity which reflected as much on the members as on the president was the Harveian Society; he was also vice-president of the Medico-chirurgical Society. In the seventies the brilliant trio—Sir William Jenner, Sir William Gull, and himself—were at the height of their fame. Of them only Sir William Jenner remains, retired from the field of his labors, but still remembered and esteemed.

"It is time that some allusion were made to Sir Richard Quain's magnum opus—the *Dictionary of Medicine,* by which he will be remembered long after his fame as a physician is eclipsed by newer successes gained in the profession. This wonderful dictionary was compiled in the rare leisure moments of this busy man, and the labor of the task was enormous, extending over ten years before the massive volume of 1,800 pages was published in 1882. The contributors to the dictionary included specialists in every branch of science, and the editor exercised the strictest care to insure accuracy and the latest information. Since the first edition, which was hailed with universal approval in this country, it has been thought wiser to issue the work in two volumes rather than in its previous cumbrous form. Additions and emendations have been made in the dictionary which will be the enduring monument of its gifted editor. Sir Richard Quain contributed many valuable articles on medical subjects to the *London Journal of Medicine,* the *Transactions of the Pathological Society,* the *Edinburgh Medical Journal,* etc. His Lumleian Lecture, delivered in 1872, was on the subject of Diseases of the Muscular Walls of the Heart; his Harveian oration, published in 1885, was entitled The Healing Art, in its Historic and Prophetic Aspects.

The Indiana State Medical Society.—The annual meeting will be held in Lafayette, on May 5th and 6th, under the presidency of Dr. W. N. Wishard, of Indianapolis. Physicians intending to read papers are requested to send their titles as soon as possible, indorsed by the secretary of their society, in order that the committee may be sure that such papers have been read before and referred by the county society to which the physician belongs. No titles will be received after April 15th.

The Academy of Medicine, Stark County, Ohio.—The academy, says the *Columbus Medical Journal* for March 15th, met in the board of health room, Canton, on March 1st. As it was the annual meeting, the following officers were elected to serve for the ensuing year: President, Dr. H. E. Corl, of Middlebranch; secretary, Dr. R. J. Pumphrey, of Massillon; corresponding secretary, Dr. J. P. DeWitt, of Canton. Three applications for membership were received, and the academy enters upon its new year with better prospects than ever before.

The Association of American Physicians.—The thirteenth annual meeting will be held in Washington on May 3d, 4th, and 5th, under the presidency of Dr. F. C. Shattuck, of Boston. In addition to the president's address, the programme includes the following papers: Bacillus Icteroides (Sanarelli) and Bacillus X (Sternberg), by Dr. George M. Sternberg, of Washington; Comparative Studies of Bovine Tubercle Bacilli and of Human (sputum), by Dr. Theobald Smith, of Boston; Actinomycotic Forms of the Bacillus Tuberculosis; an Experimental Study, by Dr. Simon Flexner, of Baltimore; Some Observations on Cardiac Syphilis, by Dr. I. Adler, of New York; The Danger of Error in Diagnosis between Chronic Syphilitic Fever and Tuberculosis, and Two Attacks of Temporary Hemiplegia occurring in the Same Individual as the Result of the Use of Peroxide of Hydrogen in a Sacculated Empyema (Pleural), by Dr. E. G. Janeway, of New York; Gastric Syphilis, with the Report of a Case of Perforating Ulcer of the Stomach, by Dr. Simon Flexner; Acute Interstitial Nephritis, by Dr. William T. Councilman, of Boston; Chronic Interstitial Nephritis, by Dr. I. N. Danforth, of Chicago; Acute Leucæmia, by Dr. M. H. Fussell and Dr. A. E. Taylor, of Philadelphia; The Bacteriology of Cheese, by Dr. V. C. Vaughan and Dr. Julian T. McClymonds, of Ann Arbor, Michigan; A Chapter in Peripheral Pathology; the Circulation in the Feet, by Dr. Morris Longstreth, of Philadelphia; A Case of Chronic Infective Endocarditis with Streptococci found in the Blood before Death, treated by Antistreptococcus Serum, and Experimental Researches upon the Effects of Injections of Antitoxines upon the Kidneys, by Dr. W. H. Thomson, of New York; Nephritis of Malarial Origin, by Dr. W. S. Thayer, of Baltimore; Experiments upon the Localization of Micro-organisms in the Spleen, and The Importance of a Lesion of an Organ for the Localization of Bacteria within it, by Dr. S. J. Meltzer and T. M. Cheesman, of New York; Congenital Stenosis of the Pylorus in Infants, by Dr. S. J. Meltzer; Paralysis of the Left Recurrent Laryngeal Nerve in Mitral Stenosis, and Combined Symptoms of Myxœdema and Exophthalmic Goître, by Dr. William Osler, of Baltimore; The Renal Form of Enteric Fever, by Dr. J. O. Wilson, of Philadelphia; Gastric Carcinoma associated with Hyperchlorhydria, by Dr. D. D. Steward, of Philadelphia; The Diffuse Infiltrating Form of Secondary Melano-sarcoma of the Liver, by Dr. L. Hektoen, of Chicago; A Case of Myxœdema and Albumosuria; Treatment with Thyreoid Extract; Death, by Dr. R. H. Fitz, of Boston; Some Usually Overlooked Physical Signs in Chest Diseases, by Dr. Norman Bridge, of Los Angeles, California; Studies of Antitoxines for Tuberculosis, by Dr. E. L. Trudeau and Dr. E. R. Baldwin, of Saranac Lake, N. Y.; The Antitoxine Treatment of Pneumonia, by Dr. A. H. Smith, of New York; and A Report of a Case of Madura Foot, by Dr. J. H. Wright, of Boston.

The Loomis Sanitarium for Consumptives.—The report of the physician in charge, Dr. J. Edward Stubbert, for the year ending November 1, 1897, shows that two hundred patients were treated during the year. Seventy-eight of them remained in the institution at the date of the report, sixteen had been discharged apparently cured, thirteen had been discharged with the disease arrested, sixty-one had been discharged as improved, in twenty-nine (including twelve who had been admitted on probation) the condition was unimproved, and three had died.

The basis of the treatment was climatic and hygienic in all cases. The climate, says Dr. Stubbert, is well adapted to all forms of tuberculosis as well as other troubles. The elevation, twenty-three hundred feet, is such as is generally conceded to be most advantageous for lung troubles; this altitude, together with the peculiarly dry atmosphere and abundance of sunlight, furnishes all the conditions necessary in climatic and hygienic treatment, not only of lung diseases, but of many others as well.

Malarial fevers, which so often complicate tuberculosis in lower altitudes, are unknown, and when the patients are brought here the disease is speedily eradicated. The situation, on top or just below the crest of the highest range of mountains between New York and the Great Lakes, with a breathing space of fifty miles lying at one's feet to the south and west, gives all the climatic advantages necessary for a fair trial of all the methods of treating tuberculosis.

Dr. Stubbert says he has been fortunate enough to visit many of the noted health resorts of America and Europe, and, after carefully weighing the advantages of these places, he can say that when an average of all the advantages is taken, the weight of evidence is in favor of Liberty [the town in which the sanitarium is situated] for incipient cases of tuberculosis.

One peculiarly rare good feature of this climate is that it shows good results both in winter and in summer: the winters are long, cold, dry, and exhilarating, and the summers are cool and refreshing.

As regards the use of drugs, Dr. Stubbert reports that guaiacol was found too expensive for the majority of patients. Geosote, as prepared by the Fischer Chemical Company, proved an agreeable form of administering guaiacol in a few cases, but is also expensive. It was found less irritating to the stomach than creosote, but not superior to carbonate of guaiacol.

Ichthyol, as prepared by Parke, Davis, & Co., in keratin-coated pills, two grains each, was used with considerable success, especially in cases showing intestinal complications. The initial case was as follows: The patient had far-advanced pulmonary lesions with secondary deposits in the intestines; there were seven or eight watery evacuations a day, with tenesmus, general abdominal tenderness, tympanites, etc., and no preparation of creosote was tolerated. Keratin-coated ichthyol pills were prescribed with the purpose of passing the remedy to the intestines before its coating became dissolved. In a short time the evacuations were reduced to one or two a day, and tenderness became localized at one point. A number of patients have since been treated with ichthyol in daily doses of from six to ten grains, and the results obtained have been ten per cent. better than those from creosote or any of its derivatives; these results are obtained in the relative effect upon weight, expectoration, and cough and the disappearance of bacilli. No disturbance of digestion supervenes.

Oil of cinnamon in daily doses of from thirty to forty minims was used in a few cases with apparently good results, but there were too few cases placed upon this treatment to make it fair to compute its relative value.

Hot-air inhalations were given with apparent success in many cases. The Underwood inhaler was used, and the temperature within the tubes was varied according to the case, from 200° to 450° F. At present, says Dr. Stubbert, all that can be said is that in cases of mixed infection, with profuse expectoration and troublesome cough, these inhalations are especially useful in that the expectoration and cough decrease materially. He has failed to discover any effect upon the tubercle bacilli.

Dr. Stubbert says that during the few months preceding the report the results of serum treatment upon temperature, cough, expectoration, weight, and tubercle bacilli were far in advance of those of any other agent used. He says he is not ready to pin his faith to serum treatment in tuberculosis, but in the face of such facts as were and had been lately presenting themselves before him daily, both in and out of the sanitarium, he finds it necessary to cultivate a conservative spirit, lest he should believe too quickly. With a common ground of climate, hygiene, food, etc., placing side by side patients treated with serum and those treated with other remedies, he remarks, we are forced to acknowledge that in incipient cases, with or without bacilli, the percentage of good results in every way has been in favor of the former. Numerous patients more advanced that have not done well under other treatment have gained weight, had a reduced temperature, and expressed themselves as feeling much stronger. The comparative results in general condition, the absolute effect upon temperature and bacilli, have been really startling, and he can only say he hopes they may prove lasting. The serum employed was furnished by the United States government, from the Biochemical Laboratory in Washington, and was the result of experiments made by Dr. E. A. de Schweinitz, chief of the laboratory.

During the year it was demonstrated that in the Röntgen rays and the fluoroscope we possessed accurate agents for diagnosticating tuberculous changes of lung tissue in their various stages. They were used not only as factors corroborative of results arrived at by auscultation and percussion, but in some instances for discovering isolated foci of infection not recognizable by ordinary methods. In addition, says Dr. Stubbert, the fluoroscope enables us to recognize more fully and accurately the degree, position, and relation of areas of infiltration and consolidation; it also delineates plainly the limit of these areas. It is unfortunate, he says, that as yet no satisfactory photographs have been taken of the images cast upon the fluoroscope plates. He thus summarizes the results of investigations with the Röntgen rays at the sanitarium:

1. Slight haziness indicates the beginning of tuberculous infiltration, and may or may not be accompanied by dullness.

2. Decided shadows indicate consolidation, and its extent is in direct relation to the comparative density of the shadow thrown on the fluoroscope.

3. Circumscribed spots of bright reflex, surrounded by narrow, dark rings or located in the midst of an area of dense shadow, indicate cavities.

4. Intense darkness, especially at the lower portion of the lungs, indicates old pleuritic thickenings over consolidated tissue.

5. Pleural effusions are shown in black shadows, the upper level of which may be agitated by succussion.

6. There is no reason to doubt that the effusion of pericarditis would throw a like shadow, which would be distinguishable from the heart shadow above by its greater blackness.

7. Shadows thrown in the first and third stages of pneumonia probably resemble those of tuberculous infiltration. The shadow of the second stage of pneumonia is identical with that of tuberculous consolidation.

8. In emphysema and asthma the reflex is abnormally clear and the movement of the diaphragm is restricted.

Dr. Stubbert urges upon the board the necessity of establishing a good laboratory at the sanitarium, in order that the profession at large may avail itself more fully of this very exceptional clinical field.

The Fifty-first Annual Commencement of the Starling Medical College (*Columbus Medical Journal*, March 15, 1898) will take place on Thursday, April 14, 1898. The presentation of the degrees to the graduating class, which numbers exactly a hundred, will take place in the Grand Southern Theatre at 8 P. M. Dr. Starling Loving, dean of the faculty, will preside, as usual, and the orator of the evening will be Dr. Washington Gladden. The new addition to the college building, to be used for laboratory purposes, will be ready for occupancy by the opening of the next annual session.

The New Quarantine Physician of Baltimore.—The appointment of Dr. John M. Ruhräh as quarantine physician of Baltimore in the place of Dr. Taneyhill, who declined, not only is acceptable to the profession, says the *Maryland Medical Journal*, but reflects great credit on the medical advisers of the mayor. Dr. Ruhräh was graduated from the College of Physicians and Surgeons in 1894, and after serving as resident physician at the City Hospital for a short time he went abroad and perfected himself in the technics which so well fitted him for the position which he has held as head of the Pasteur Institute of the College of Physicians and Surgeons.

The New York Post-graduate Medical School and Hospital.—Dr. S. E. Solly, of Colorado Springs, has consented to deliver a special course of lectures on climatology in the school. The lectures will be given on April 25th, 26th, and 29th, and May 2d, 4th, and 6th, at 5 P. M. Admission will be by ticket only. Members of the profession not specially invited may secure tickets, without charge, on application, either personally or by note, to the superintendent, in the office of the school.

An Erroneous Charge of Improper Advertising.—The M. J. Breitenbach Company, of New York, has issued a circular saying that it has been intimated that maliciously disposed dealers, when interviewing the medical profession, have stated that Gude's pepto-mangan is placarded on walls, fences, etc. The intention of such an assertion, says the circular, is evident, and the statement is false in every particular.

There is a sign advertising company in this city whose line of work is in that direction. Being of the same name, Gude, they place their name in bold letters and a passing glance might create the impression that Gude's pepto-mangan was being so advertised. This is positively not so.

The circular concludes as follows: "We have been before the medical profession of this country for upward of seven years and have endeavored to conduct our business in the highest ethical manner. The following clause in our contract with Dr. A. Gude & Co., chemists, Leipsic, covers the ground thoroughly:

"*Section 9.*—And it is further agreed between Dr. A. Gude & Co., party of the first part, and the M. J. Breitenbach Co., party of the second part, that if at any time the said M. J. Breitenbach Company should by device or by advertising attempt to increase their business in Gude's pepto-mangan *other* than through the recognized channels *to the medical profession,* then in such event this contract is to become null and void and all rights of the M. J. Breitenbach Company existing under this instrument immediately become the property of said Dr. A. Gude & Co. *without recourse to law.*' "

A Case of Severe Electrical Burns.—The following account of a case, by Dr. J. F. Weathers, of New Albany, Indiana, has been sent to us: An electrician employed in the electric plant used to furnish power to the city street-car line and to the arc and incandescent lights for the city accidentally brought his back in contact with the positive and negative keys of the switch board of arc line furnishing ninety-six street lamps and carrying four thousand volts of electricity. He became impaled, so to speak, on those keys until he was released by the tissues being burned away in two pits about three inches in diameter and down to the bony structures. The intervening space between these pits, which were ten inches apart, was roasted, and after the lapse of a few weeks was lifted out. It weighed two pounds and a half. I was called to see him immediately after the accident, which was on April 12, 1897. I applied linseed oil and limewater, equal parts, pouring the charred cavities full and covering them over with absorbent cotton. I kept this up some days. I administered opiates to relieve pain, which was quite severe. The sloughing was something awful; the cotton, bandages, clothing, and bed were saturated in pus. I turned my attention to some dry dressing, and first used boric acid and bismuth subnitrate, but this produced too much pain. I then tried the antiseptic known as vitogen, sprinkling the powder lightly all over the surface, and over all a cloth saturated with linseed oil was laid. The effect was marked; quietude and sleep followed without the administration of an opiate. This dressing was repeated generally twice a day for many days, and one remarkable feature is that I saw no more pus, and on undressing the wound there was visible no vitogen powder. This treatment was never departed from until September 1st, when the patient was discharged. I used eighteen ounces. This man withstood four thousand volts, as all the arc lamps were extinguished for the time.

The Boston Medical Society and the Abuse of Medical Charity.—The following open letter was read before the society on March 15th by Dr. R. K. Noyes, unanimously approved and adopted by the society, and recommended for publication:

To the Trustees, the Superintendents, the Staffs, and the Medical Officers of the Hospitals and Dispensaries of Boston.

DEAR SIRS AND GENTLEMEN: The members of the Boston Medical Society feel constrained to represent for your respectful consideration certain facts and conditions which seem to have an intimate relation to the construction and to the solution of the problem which is known as the "abuse of medical charity."

It is hardly necessary to say that the problem in question, which at the present time so frequently comes to the attention of the medical profession in all large centres of population, has, on the one hand, features which are perplexing as well as delicate, and, on the other hand, features which are nevertheless exasperating and disheartening.

We deem it proper to state, not without due regard to the fitness of things, that we have hoped for a long time that the initiative in the matter of dispensary-abuse reform would be taken, and that an adequate remedy for the evil would be discovered and applied, by some action on the part of the Massachusetts Medical Society. And we beg to believe that it will be readily agreed by all fair-minded medical men that we had, in that able, honored, and influential body, the most ample and justifiable grounds for so hoping, as well as supposing and expecting, inasmuch as it is from within that society that our vaunted medical ethics, which determines not only our relations to our professional brethren, but also our relations to the public in general, is supposed to originate.

Moreover, it is from the members of that society that our medical colleges frequently obtain their tutors, instructors, and professors, and that our hospitals choose their medical and surgical staffs; and it is toward those members of the profession that there is always the strongest tendency on the part of practitioners to hold sentiments of special honor and to feel inclinations for emulation.

It is with pleasure that we acknowledge the almost uniform courtesy, generosity, sympathy, and fairness which eminent professors, both as private practitioners and as consultants, have accorded to us.

As against the professional ethics of the consulting practitioners of Boston, or of the staffs and medical officers of the hospitals and dispensaries, in our professional relations with them, especially in emergent and capital cases, we have no inclination to complain and no reasons to protest.

But, as private practitioners, we have had, with no slight feelings of regret, occasion to experience what seems to us an entirely different condition of things, as manifested in the methods which are employed by some of the medical men who are connected with the medical and surgical out-patient departments, in the several large dispensaries, in their relations to us as professional brethren and in their relations to certain dispensary patients, especially to those patients who were ours perhaps a day, or an hour, or a year previously, and who would otherwise be ours continuously, when occasion required, if only the same principles of medical ethics were carried out by these gentlemen in public practice as they would undoubtedly carry out in their relations to us in private practice.

As to medical consultations in general, aside from the special welfare of the patients, two things are always of particular importance, as between the practitioner and the consultant—namely, first, that the former shall remain in full charge of the patient, and, second, that he shall have his standing with his patient enhanced and fortified. Therefore, that this is not done in our large dispensaries is precisely what we allege against certain medical men and medical officials who practically have charge of the conduct of all the principal dispensaries in Boston.

However unwittingly dispensary physicians and surgeons may be responsible for it, our complaint is that, by giving advice and treatment to patients at the dispensaries, many of whom must be assumed to be able to pay for it, without a note of request or of recommendation from their family physicians, except in emergent cases, and by omitting to uphold the ability, the proficiency, and the procedure of these family physicians, with reference to all cases, so far as may be consistent with fact and with conscience, which as to almost all dispensary patients can be truthfully done, we not only lose, through them, our patients, but also we lose our standing with our former patients, and hence our standing with prospective ones and with the public.

Even if that result arises, as possibly may be the case, from a purely negative attitude toward the patients and the public, and toward the profession, it hardly needs to be pointed out as to what the consequences would be if that same negative attitude were to be assumed by them in the ethics which would govern them, as honorable private practitioners, or especially in their capacities as private consultants, with any physician among us were the opportunity offered to them to do so.

Ethically, as well as justly, it certainly can not be held by any physicians, nor should the public be led to believe, by any words or acts on the part of medical officials or dispensary practitioners, that private practitioners in general, who are instructed by these same professors, who are graduated from the same colleges, who possess the works of the same authorities, who employ the same therapeutics, who proceed upon the same theories, who have had as good a practical experience, who realize as great a sense of responsibility, and who evidently are inspired by as high an ethical sense, are less competent professionally or less successful with given cases than many of those physicians and surgeons who are officially connected with the dispensaries and with the out-patient departments of the hospitals.

In the position from which we take our observations, it may never have come to the attention of the gentlemen to whom we in this letter especially address ourselves that, according to the unchanged intentions of those institutions in question, so far as can be shown by the statutes and by the original parchments, there is no provision for any such perversion of the conduct of the dispensaries of Boston as seems to be clearly demonstrated by the manifest tendency of some of the dispensary physicians to utilize, in their official capacities, the dispensaries and the out-patient departments of the hospitals for something other than the disinterested welfare of the sick poor; and of the official management of the dispensaries to protect and to promote the existence of these institutions by any such means as the dispensing of drugs and of medicines for remuneration.

In conclusion, it is only desirable to add, as to the work of medical charity, that, as citizens and as physicians, we desire to declare and to emphasize our earnest advocacy of free dispensaries for all those persons, as designated in the hospital and dispensary charters, who are sick, poor, and unable to be properly treated and cared for at their homes and to pay a physician, and that such persons should not be deprived of the blessings and the benefits of such dispensaries by the unjust encroachments of the well-to-do, the well-dressed, the selfish, and the fraudulent; and that, as private practitioners who constitute the great body of the medical profession, and who traditionally are known to be self-sacrificing and to be ever generous toward the needy and the humble, we shall, so far as may be consistent with our time and strength, whenever proper occasions arise, endeavor to give cheerfully our professional services without remuneration to all those whom we may personally know to be in need and to be deserving thereof.

[Signed for the society.]

M. Gerstein, M. D., *Secretary.*

Abscess of the Brain in Infants.—By the courtesy of our excellent contemporary the *Archives of Pædiatrics* we are enabled to make the following copious extracts from an article published in the February and March numbers of the *Archives*, being a paper read by Dr. T. Emmett Holt, of New York, at the last annual meeting of the American Pædiatric Society.

The literature of cerebral abscess in infancy and early childhood is very meagre. How rare this condition is may be judged from the fact that in a collection of ninety cases of abscess of the brain in 1867, Meyer found only three under ten years of age; in a collection of seventeen cases in children under fifteen, by Wyss in 1871, only four were under five years, two of these being in infants under one year. This is quite remarkable, since the two most potent causes of abscess, traumatism and otitis, are both so frequent during the first five years of life.

The cases reported thus far have many of them been with very imperfect clinical histories, so imperfect, in fact, as often to throw little light upon the course of the disease at this early age. After five years, cases of brain abscess are not infrequent, and, as a rule, the course resembles that seen in older children and early adult life. Four of the cases here reported came under observation in the Babies' Hospital in a single year, and two of them were under observation long enough to give an opportunity for careful study and record. It is the purpose of the present paper to furnish, together with a report of the cases mentioned, a collection of all that could be found in literature in children under five years; not, however, including any of five or over.

Case I. *An Abscess in the Left Parietal Lobe containing Two Ounces of Pus, with Latent Symptoms.*—A girl, six weeks old, was admitted to the hospital March 17, 1897. The history given was that the child was born after an easy, uncomplicated labor; that there had been no ophthalmia, no umbilical inflammation, and no traumatism. The infant was said always to have been well and healthy, and nothing abnormal had been noticed until four days previously, when swelling at the lower part of the left thigh was observed. The parents were not very intelligent, and no other facts could be ascertained. The child was admitted at night, and no careful record was made of her general symptoms. She was well nourished, but very pale and greatly prostrated; pulse very feeble; temperature, 99.5°; there was no coma. The only thing about the patient which attracted particular attention was, in addition to the great prostration, a swelling at the lower portion of the left thigh. This was quite prominent, and at its inner surface was an area of fluctuation. An erysipelatous blush surrounded the knee and extended up the thigh to the groin. The child was seen shortly after by Dr. A. L. Fisk, surgeon to the hospital, who laid open the thigh. He found no pus, but only a mass of disorganized blood and lacerated tissues. The thigh was thoroughly irrigated, and the wound drained and closed. No improvement followed the operation; the temperature remained slightly elevated, and the blush extended rapidly upward until it reached the navel. The child grew gradually worse, and died the following morning, eighteen hours after admission.

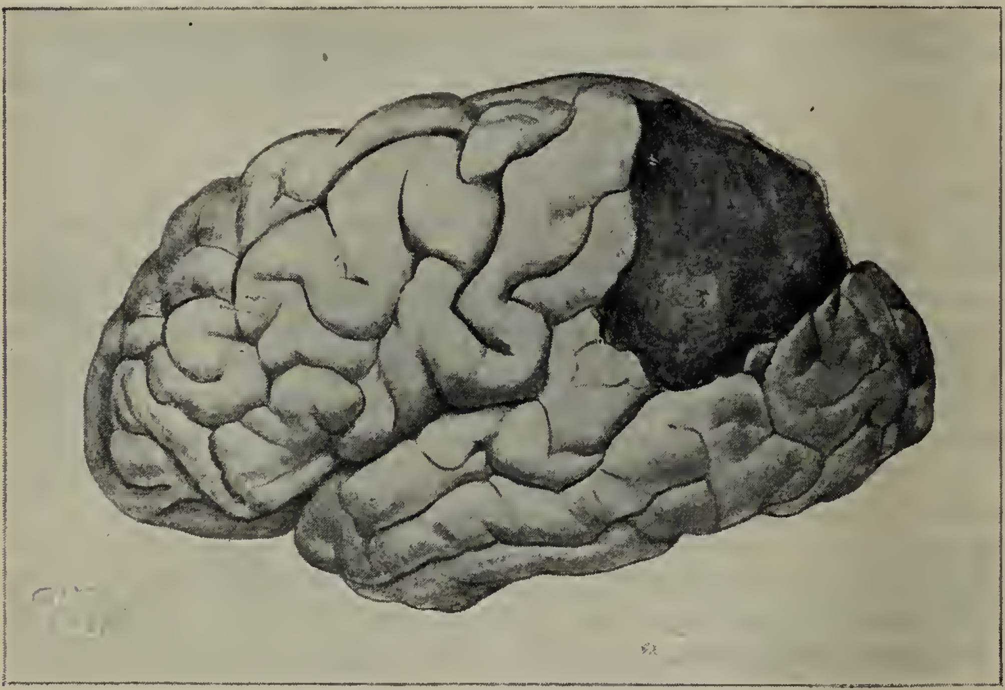

Fig. 1.—Abscess of the parietal lobe in a child six weeks old (Case 1).

Autopsy.—Brain: The convolutions of the left side were much flattened. The brain generally was firm, but quite pale, except over the medulla and pons, which were congested. No adhesions between the dura and skull, or between the dura and pia. There was a localized meningitis over the left hemisphere in the parietal region, extending somewhat on to the occipital and temporosphenoidal lobes. The pia was infiltrated with pus and fibrin in places, but the exudation was nowhere abundant. Occupying chiefly the left parietal lobe was an abscess cavity (Fig. 1) measuring seven centimetres by five centimetres, and containing two ounces of thick, yellow, odorless pus. Its external wall was very thin, being scarcely two millimetres in thickness. In front the abscess was bounded by the ascending frontal, and behind by the anterior occipital convolution. The abscess wall was sharply limited, but showed no well-defined lining membrane. The sac communicated with the left lateral ventricle, which, however, was not filled with pus. The temporal bone on both sides was opened, and thin, yellow pus was found in both middle ears, but much more upon the left side. (No discharge during life.) On laying open the left thigh there was found a transverse laceration of the quadriceps muscle, just above the knee joint, with very extensive extravasation. The articular surfaces of the femur, fibula, and tibia were reddened, and the cartilages slightly softened. There was some bloody effusion into the knee joint. There was no fracture, and the epiphysis was not separated. The other organs showed nothing of importance.

A bacteriological examination was made with the following result: The heart's blood, liver, left knee, thigh wound and abscess cavity of the brain all contained the streptococcus and staphylococcus pyogenes. The spleen and kidneys contained the streptococcus in pure culture. The culture from the right ear was contaminated; that from the left ear contained the streptococcus.

The finding of an abscess in this case was entirely unexpected, for there was nothing in the history or the symptoms to point to any serious brain lesion. Although carefully questioned, the parents positively stated that the child had appeared well until four days before admission. The condition found in the left thigh could only have resulted from traumatism, although no history of it could be obtained. It is not easy to state what the order of development of the different lesions was, but it seems most probable that the brain became infected from the ear, and that the thigh was a later condition infected from the brain or from the ear. The absence of pus from the lacerated thigh tissues, and the large collec-lection in the brain, make it highly improbable that the thigh lesion was the primary one.

Case II. *Abscess of both Parieto-occipital Lobes and the Cerebellum; Pus in all the Ventricles of the Brain.*—L. K., a girl, three months old, was admitted to the hospital November 19, 1896. The family history was negative. One child had died at eight months of some brain disease after two days' illness, one of measles, and one of pneumonia. The patient was the only child living, and had always been breast-fed. The mother was a Russian, and very little that was definite could be learned regarding the present illness, except that the child had been apparently well until three days before, since which time fever had been present. The examination on admission showed a plump, well-nourished infant; length, twenty-three inches; weight, ten pounds an ounce and a half; sutures still open; eyes, ears, nose, and throat normal; scalp covered with seborrhoic eczema; tongue slightly coated; respirations shallow and irregular, almost Cheyne-Stokes; abdomen retracted; no rigidity of the extremities; no strabismus, drowsiness, paralysis, or stupor; liver, spleen, lungs, heart, normal. The temperature was 99° F., but rose the same afternoon to 102° F.

[Dr. Holt then gives a summary of the progress of the case. The child died on December 13th.]

The marked symptoms were the constant fever, which during the last week was high; continued irregularity of respiration and cervical opisthotonus, but with no other constant nervous symptoms; nystagmus, rigidity, retraction of the abdomen, and vomiting—all being only slightly marked and not constant. The case appeared like an irregular type of meningitis.

Autopsy.—On removing the brain from the cranium, one hundred cubic centimetres of bloody cerebro-spinal fluid escaped. There was observed a distinct bulging of the right parietal lobe, on opening which there was found a considerable quantity of green, viscid pus. This abscess cavity was found to communicate freely with the right lateral ventricle; and both lateral ventricles, as well as the third and fourth, were dilated and filled with pus. The abscess had broken across the mid-brain, and all parts about were considerably softened. On the inner side of the left hemisphere (Fig. 2) a similar collection of pus was seen to that upon the right side, but it was more deeply situated. The cerebellum was softened, especially on its interior surface, and was infiltrated with pus cells, as the microscope showed. There were nowhere any marked evidences of meningitis, although the pia over the parietal and occipital lobes was much congested. The sinuses were normal; a recent non-adherent thrombus of a dark-red color was found in the lateral sinus. The petrous portion of the temporal bone was opened on both sides, the right being found normal; but on the left side a collection of pale green pus was found in the internal auditory canal. (No discharge noticed during life.) The spinal cord was not examined. There was a moderate amount of hypostatic pneumonia, and an extremely fatty liver, but nothing of importance in any of the other organs. Cultures were made from the pus on the surface of the cerebellum, from the lateral ventricle, from the middle ear; and all showed a growth of a diplococcus, and a short, plump, motile bacillus. The former was identified as the pneumococcus, and the latter as the *Bacillus coli commune.* The same was found in the lung.

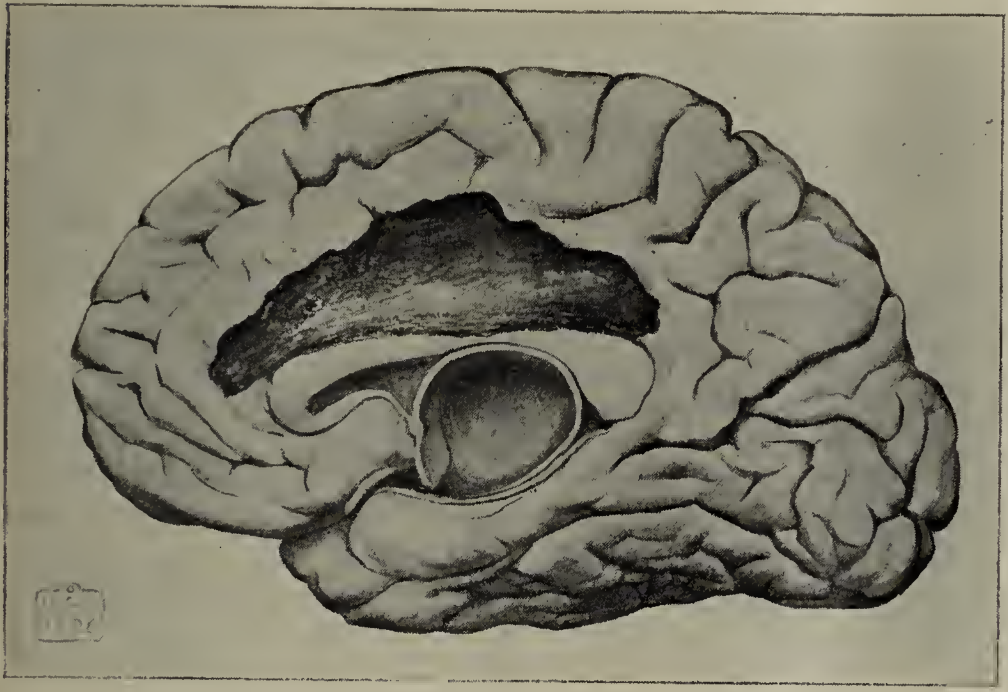

Fig. 2.—Abscess on the inner surface of the right hemisphere (Case II).

The long period of observation made it possible for many examinations of this child to be made, and she was seen by several members of the hospital staff. The case was regarded during life as one of meningitis of an irregular type, and in the absence of definite focal symptoms, it does not seem possible for a diagnosis to have been made. The source of infection seems pretty clearly to have been the ears.

Case III. *Superficial Abscess of the Cerebellum; Diffuse Purulent Meningitis.*—P. F., a boy, five months old, admitted to the hospital October 5, 1896, thirty-six hours before death. The family history was negative; the child was reported to have been well and strong until seven weeks before, when it was said he fell from the bed to the floor. How he struck could not be ascertained, as not much attention was paid to this, and nothing of importance was observed until three days later, when he was suddenly taken with sharp, piercing cries and vomited several times. From that time he had not been well; had steadily lost flesh; there had been frequent attacks of trembling and muscular twitching, but no general convulsions. No other details that were reliable could be obtained.

On admission the child was much emaciated, and was in quite a deep stupor. There was no apparent paralysis, but a general spastic condition of the muscles of all the extremities; the neck was stiff, the head drawn back in opisthotonus; the hands were tightly clinched; the abdomen retracted; the pupils responded very sluggishly to light, and by tests there appeared to be no vision. The pulse was 200 and weak. The temperature was 100.6° F., and rose later in the day to 101.6° F.

On the following day the child vomited several times a bloody fluid, and had several tarry stools; bleeding also occurred from the left ear. There were general convulsions, lasting two hours. The temperature fluctuated during the day between 98° and 104.2° F.; the child lost steadily, and died at 11 P. M.

Autopsy.—There were evidences of a diffuse purulent meningitis over both hemispheres, with an abundant exudation, which was most marked at the convexity along the superior longitudinal sinus; the convolutions were flattened. Four ounces of turbid cerebro-spinal fluid were collected and measured. On removing the brain from the skull, an abscess was opened about two centimetres in diameter on the inferior surface of the cerebellum. This contained green, viscid pus and broken-down brain tissue, and was surrounded by quite a dense membrane. It extended inward into the vermiform process. Both the lateral ventricles and third ventricle contained the same thick pus. Only the upper part of the spinal cord was examined; this was normal. The central canal was not dilated. Pus from the abscess cavity was stained with gentian violet and acetic acid, and an organism resembling the meningococcus was found. This patient was almost moribund at the time of admission, and was under observation so short a time that there was no opportunity to study the case carefully. Unfortunately the middle ear was not examined at autopsy, but there was no history of a discharge, except the bloody one mentioned. The symptoms during the period of observation were regarded as due to meningitis.

Case IV. *One Large and Two Small Abscesses of the Cerebellum.*—F. L., a girl, nine months old, was admitted to the hospital December 7, 1896. There were four other children in the family; all reported healthy. The patient had never been strong; had measles three months ago, and was said to have been failing since that time. Reports regarding the duration of present illness were somewhat conflicting, but it appeared certain that the child had been ailing at least six weeks. Not much that was reliable could be learned regarding the early symptoms. There had been no vomiting, no diarrhœa.

On admission the child was fairly nourished, weighed fourteen pounds and five ounces, and had six teeth. The fontanelle was rather large and slightly bulging. The eyes, ears, throat, and nose were normal. There was internal strabismus; the pupils were dilated, and responded feebly to light; knee-jerk, increased on both sides. The child was quiet, but did not seem at all stupid; no paralysis, arms and legs being freely moved. Considerable cerebral irritability was manifested by grinding of the teeth and throwing the arms wildly about. The head was drawn back, but the post-cervical muscles were not rigid; pulse slightly irregular; respiration shallow and very irregular; temperature normal.

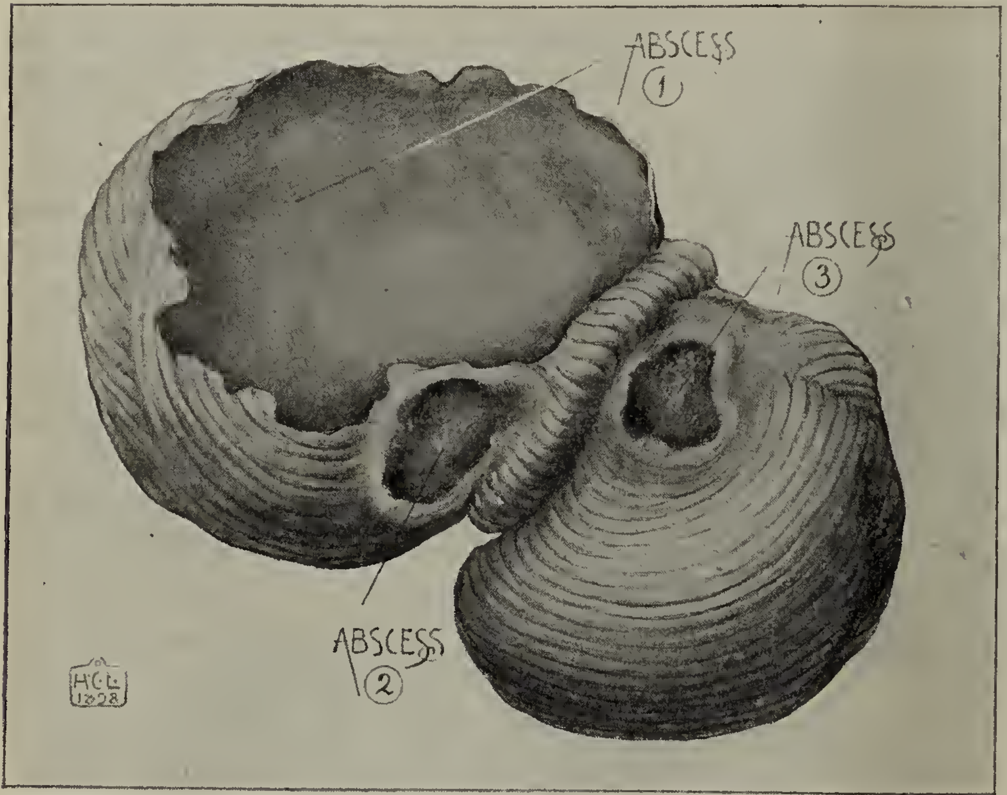

Fig. 3.—Abscesses of the cerebellum (Case IV).

During the first few days of observation there was no special change in the symptoms. Marked irritability alternated with periods of drowsiness. The pulse at times was decidedly irregular and at times intermittent. The abdomen was not retracted; there was no vomiting; no constipation.

[The child died on January 29th, having been under observation fifty-four days.]

The symptoms which this long case showed may be grouped as follows:

Motor.—Opisthotonus nearly constant and generally marked; rigidity of all four extremities during the last four weeks only; tremor of the hands, especially the right, frequent during the last few weeks; no paralysis except a slight temporary one of the face; no general convulsions; ankle clonus for a time, especially upon the left side; knee-jerk always much exaggerated upon both sides.

Sensory.—Moderate hyperæsthesia early in the illness, no evidence at any time of headache or other pain.

Vaso-motor.—*Tache cerebrâle* nearly constant; very marked and irregular flushing of the face and neck during the third, fourth, and fifth weeks.

Mental.—General irritability alternating with dullness; no deep stupor or coma.

Special Senses.—Slight internal strabismus early; pupils dilated throughout the attack and responded feebly to light; optic-nerve atrophy discovered in the sixth week; purulent discharge from the left ear developed in the fourth week.

General.—Pulse usually rapid and regular, occasionally irregular, but never slow or intermittent; respiration very irregular nearly all the time, and much of the time on the Cheyne-Stokes order; temperature practically normal for the first two weeks, the marked rise in the fourth week apparently from otitis; constant elevation only during the last eight days; vomiting occasional and never characteristic of brain disease; the bowels always regular; abdomen never retracted; fontanel constantly tense and bulging. The progress was very irregular both as regards the nervous symptoms and the general condition, the child alternately losing and gaining in weight, and the nervous symptoms showing no steady advance for the first month of observation. Another factor in the diagnosis was the presence of pus organisms in the fluid drawn by lumbar puncture in the second and third weeks.

To summarize briefly, the symptoms which were practically always present were cervical opisthotonus, a tense bulging fontanel, moderate equal dilatation of the pupils, irregular respiration, a condition of mental irritability alternating with dullness, and increased knee-jerk. Late in the disease there were added irregular temperature, a discharging ear, rigidity of all the four extremities, marked vaso-motor symptoms, and optic-nerve atrophy.

The case was seen by nearly all the physicians connected with the hospital and by many others. At the end of the second week one only was willing to put himself on record as in favor of tubercular meningitis, the others present at this consultation regarding the case as one of basilar tumor. The latter diagnosis was concurred in by a prominent nerve specialist who saw the case late in the fourth week. However, only two weeks before death another prominent specialist made a diagnosis of "arrested cerebral development, an atrophic cortex, and latent hydrocephalus." After the result of the lumbar puncture was known the diagnosis was thought by those watching the case closely to lie between meningitis and abscess, and during the last week the latter diagnosis was regarded as altogether the more probable one.

Autopsy.—The pia mater was adherent to the dura over the right temporo-sphenoidal lobe and over the cerebellum; at the base there was a moderate amount of meningitis with purulent exudation; the cerebro-spinal fluid was increased in quantity, and the amount of fluid in the ventricles was greater than normal, although they were not distended and the fluid was not purulent.

The right lobe of the cerebellum was considerably larger than the left, measuring one centimetre more in both diameters; the middle lobe appeared compressed. In the right lobe of the cerebellum (Fig. 3) there was a large abscess which occupied nearly the whole lobe; this was surrounded by a sac wall which was dense and firm and about one millimetre in thickness; the abscess contained a viscid greenish pus. A little to one side of this large abscess was a smaller one about four centimetres in diameter; this was superficial, and though the walls of the two sacs were upon one side in contact, they did not appear to communicate. A third abscess about two centimetres in diameter was superficially situated in the left lobe of the cerebellum, and like the other two was surrounded by a dense fibrous wall. There were no collections of pus in the cerebrum and no meningitis of the convexity. The medulla was compressed and displaced to the left. There was no pus in the internal auditory canal. Nothing of importance was discovered in any of the other organs. Smears from all the abscesses showed the staphylococcus, and plate cultures showed the same organism, pure. A microscopical examination of the wall of the large abscess showed a dense fibrous structure lined with stratified epithelium, and in places, some pigmentation. It appeared to have been an old cyst which had become infected.

Case V. *Acute Pyocephalus, or Suppurative Ependymitis with Pus filling both Lateral Ventricles, complicating a Spinal Meningitis, which followed the Infection of a Spina-bifida Sac.*—This case has already been published by Dr. Ira Van Gieson and myself (*Journal of Nervous and Mental Disease,* December, 1890), and a brief abstract of that report will be here sufficient.

The patient was a girl that died at the age of three weeks, having been under my observation in the hospital since it was three days old. She was admitted for a lumbo-sacral spina bifida complicated by double talipes equino-varus and paraplegia. The spina bifida was covered with a granulating surface and had a very thin, translucent wall. During the first two days the temperature was taken and found normal; it was not subsequently recorded, but it did not appear elevated at any time. For the first two weeks the child was very quiet and slept most of the time, giving no sign of any cerebral disorder. During the last four or five days she failed rapidly and died apparently of innutrition, there having been no fever, vomiting, opisthotonus, or convulsions. There was no enlargement of the head.

At autopsy the ventricles were found greatly enlarged and contained five ounces of thin yellow pus. They were surrounded by a mere shell of brain tissue which had an average thickness of less than one centimetre. There was no corresponding increase in the size of the brain as a whole. There was suppurative inflammation of the sac of the spina bifida, which contained half an ounce of pus, and purulent spinal meningitis extending throughout the cord and evidences of inflammation throughout the central canal. Under the microscope the same micrococci could be traced from the wall of the spina-bifida sac along the surface and central canal of the cord to the lateral ventricles. The symptoms were, therefore, entirely latent, there being no evidence of anything except a rapidly failing nutrition.

While this case should not strictly be classed as an abscess of the brain, it still has certain features in common with such abscesses, and illustrates a mode, although a rare one, of intracranial infection. Evidently the primary condition was a patent central canal of the cord with hydrocephalus, not accompanied by any enlargement of the head, and the origin of the pus was the access of pus germs to a previously serous fluid. That such an active and widespread infection of the central nervous system should occur without convulsions, fever, or any of the usual symptoms of brain or cord inflammation, seems most astonishing and serves to emphasize the fact illustrated by the other cases reported, that the ordinary rules of diagnosis do not apply in the case of young infants. [Dr. Holt then gives summaries of the histories of twenty-seven cases recorded in literature.]

(*To be concluded.*)

Death from Hæmorrhage caused by Rupture of the Deep Vessels of the Nose.—In the March number of the *Medical Register* Dr. J. Baxter Matthews, of Pittsboro, North Carolina, relates the following case: On January the 4th he was called to attend a young man, and diagnosticated the case as one of bilious fever and treated him accordingly. Everything progressed satisfactorily, and on the 16th there was no fever and the patient expressed a desire to sit up, which he was allowed to do for a short time. On the 20th he sat up for half an hour in the morning and a little longer in the afternoon. The appetite returned and, although the patient wanted to eat everything undesirable, the diet was restricted entirely to liquid nourishment. During the following days convalescence seemed to become well established, but on the 24th the author was called early in the morning, as the patient's nose was bleeding freely. He plugged the right nostril anteriorly, and, as the blood came so freely from the posterior region, he threaded a soft catheter and plugged the same nostril from the rear by means of absorbent cotton saturated with persulphate of iron. Up to this time there had been no bleeding whatever from the left nostril. At two o'clock in the afternoon no more bleeding had occurred and the patient was very cheerful. At four o'clock the author was again hastily sent for and found that the left nostril had started bleeding. He plugged it quickly both anteriorly and posteriorly, but it failed to check the blood. The author sent for Dr. H. T. Chapin, but all their efforts were unavailing. Compression, ice, persulphate of iron, ergotole, etc., were tried, but the patient died without a sign or symptom of discomfort on the morning of the 25th.

A Simple and Accurate Method of Testing Diastatic Substances.—In an article on this subject in the March number of the *American Journal of Pharmacy* Mr. Jokichi Takamine, of Baltimore, alludes to the various methods known for determining the diastatic power of various substances, such as Lintner's, Junk's, and others, and remarks that, while some of them are very reliable, in many respects they are complicated, and require specially trained hands to get reliable results, and that they are not, therefore, applicable when quick, simple, and accurate testing is desired, as, for instance, in diagnosticating a certain form of amylolytic dyspepsia by determining the diastatic power of the patient's saliva. His proposed test method, he says, is based upon the stable diastatic property of taka-diastase.

It is generally known, and it is his own experience also, the author continues, that the isolated diastase prepared from malt or from the precipitated principle of saliva known in the market as pytalin loses its diastatic power by standing. Therefore, when the diastatic power of any substance is to be determined, it is necessary each time to go through the long process of determining the quantity of sugars formed by its action on starch (Lintner's method), or else measure the length of time required to convert the given quantity of starch into sugar (Junk's method). While these processes have valuable merits of their own, yet they have the disadvantage of being rather complicated for quick, everyday work. In carrying out the author's proposed method, a quantity of taka-diastase is tested by either of the methods mentioned above, and its exact diastatic power determined once for all. This power may be expressed as, say, three hundred Lintner's units, or it may be expressed as converting one hundred times its own weight of dry starch into sugar in ten minutes; or, a still simpler plan is to obtain a supply of standardized taka-diastase, which is especially prepared for such purposes by the manufacturer.

The standardized taka-diastase having been obtained, the diastatic power of any substance under examination is now compared with it, and the result can be expressed either in Lintner's or Junk's terms, or by any other standard method that may be agreed upon. It is highly desirable, the author states, that one standard method should be adopted for determining the diastatic power, and, whatever that may be, the following comparative test will be found useful. The solutions are prepared first as follows:

Standard Taka-diastase Solution.—Dissolve fifteen grains of standardized taka-diastase solution in 100 c. c. of water; this solution ought to be made fresh every day.

Starch Solution.—Make a five-per-cent. solution of neutral potato starch by boiling 800 c. c. of distilled water in a suitable wide mouth vessel; pour into it milk of starch, made by stirring 750 grains of starch into 200 c. c. of cold water, and boil two minutes.

Iodine Solution.—Place 15 grains of iodine and 30 grains of potassium iodide in a flask, add a little water, say 5 c. c., agitate until dissolved, and dilute to 120 c. c.; or dilute 50 c. c. tincture of iodine, U. S. P., with 50 c. c. of water containing 38 grains of potassium iodide.

Apparatus Required.—One quart agate-ware kettle; one shallow tin pan, two inches deep, eight inches in diameter; two one-cubic-centimetre pipettes graduated to tenths; eight large glasses or tumblers of about 150 c. c. capacity each; ten small test tubes; one 100 c. c. cylinder; two white dinner plates.

Process of Testing.—Pour into each of the eight glasses 100 c. c. of the hot starch paste. Place them side by side in the shallow pan of warm water at about 104° F. Measure into the first glass 1 c. c. of the saliva or other liquid to be tested. Pour, of the standard diastase solution, in quick succession, into the second glass, 1 c. c.; into the third glass, 2 c. c.; into the fourth glass, 3 c. c.; into the fifth glass, 4 c. c.; into the sixth glass, 5 c. c.; into the seventh glass, 6 c. c.; into the eighth glass, 7 c. c.

Then the contents of each glass are stirred with the test tube as a stirring rod in quick succession, until all the starch paste becomes limpid. At this stage it will be observed that the stronger the diastatic power the quicker the liquefaction of the paste. When the contents of the glasses become liquefied, take out of each glass in succession a drop of the liquid by means of the stirring test tube, and drop on a white, dry dinner plate in the order of the glasses. When there are eight drops of equal size on the plate, drop on each one drop of the iodine solution. Then spread each sample with the finger to about the size of a silver dollar. The drops from the second to the eighth glass will form a colorometric scale from blue to purple and reddish-brown. Observe now which member of the scale corresponds to the color of the one containing the saliva. The comparison is made more certain by repeating the tests within the first ten minutes after the saliva is put in.

Suppose the color corresponds to somewhere between the fourth and fifth, then we can assume it at 4.5, and calculate the diastatic strength in terms of starch converted or sugar formed; or, if further accuracy of the test is desired, a scale of starch glasses containing standard diastase solution of 4 c. c., 4.2 c. c., 4.4 c. c., 4.6 c. c., 4.8 c. c. and 5 c. c. may be put up and compared with 1 c. c. of the given saliva in the same manner.

Practising physicians, says the author, can apply this test in determining the diastatic power of different diastatic preparations that they intend to prescribe, thus enabling them to reject those preparations which have diastatic power in name only. The size of the dose also can be regulated according to the amount of diastase it contains as well as to the diastatic power of the patient.

The following modified method is given by the author, who considers it more convenient when great accuracy is not required: Into each of a dozen test tubes of about twenty cubic centimetres' capacity pour slowly from a graduated pipette fifteen cubic centimetres of water. Make a file mark on the tubes for that quantity. After draining the water from the tubes, fill each one up to the mark with the starch paste while it is hot. Several dozen test tubes may be filled with starch at a time, as it will keep at least for two days.

These tubes are put in a row on a stand, and into the first tube a given number of drops of the substance to be tested is added. In the case of saliva or malt extract it is better to dilute with a given quantity of water in order to make it easier to count the drops. Into the second and succeeding tubes add increasing numbers of drops of the taka-diastase solution. Then shake the several tubes vigorously in quick succession. When the contents of each tube are liquefied take out of each one with a rubber-headed dropper one drop and put it on the white plate in the order of the tubes shaken; then carry out the iodine test in the same manner mentioned before. By selecting droppers with uniform tips a fairly accurate result can be obtained which will answer for most practical purposes.

The Question of Diet in Typhoid Fever.—In a leading article in the *Therapeutic Gazette* for March 15th the writer urges the importance of a liberal diet in typhoid fever and warns the practitioner against the tendency to relapse into what is known as routine treatment and adhering rigidly to fixed lines of diet when a little thought and care would enable him to vary the diet and so improve the nutrition of the patient. It has been the custom, he says, of a great number of the profession for many years to order an absolute milk diet for patients suffering from typhoid fever, and to continue them on this diet for a number of days or even a week after the fever has disappeared and the temperature of the patient has been normal. Further than this, this diet is frequently insisted on when complications of typhoid fever arise which still further aid in decreasing the patient's vitality, and often a milk diet is insisted upon when it seriously disagrees with the patient, who because of idiosyncrasy, or because of some complication of his disease, is unable to digest milk properly.

These conclusions, he adds, have been reached not only from general and personal experience in which he has recently had ample opportunity to become convinced of this matter, but from an article published by Dr. Frederick C. Shattuck, of Boston, in which he states that from 1886 to 1893, 233 cases of typhoid fever were treated in the Massachusetts General Hospital under a milk diet, with a mortality of ten per cent.; from 1892 to 1897, 147 cases were treated under a much more extended diet, with a mortality of 8.1 per cent. Dr. Shattuck recognizes fully the liability to error in reckoning from too small figures in any infectious disease, and, while he does not urge that this slight decrease in mortality may have been due to the more liberal diet allowed, it certainly points to the fact, as he thinks, that the more liberal allowance of food has no deleterious influence.

Dr. Shattuck believes, the writer continues, that we should treat the patient rather than the disease, and feed him with reference to his digestive power rather than solely with reference to his fever, particularly as there are many other articles of diet than milk which can by no possibility exercise a harmful influence upon the intestinal ulceration. The diet list which he allows, and which would certainly be considered very liberal in the average hospital and in many cases of private practice, is as follows:

1. Milk, hot or cold, with or without salt, diluted with limewater, soda-water, apollinaris, vichy; peptonized milk; cream and water (*i. e.,* less albumin); milk with white of egg, buttermilk, kumyss, matzoon, milk whey, milk with tea, coffee, cocoa.
2. Soups: Beef, veal, chicken, tomato, potato, oyster, mutton, pea, bean, squash; carefully strained and thickened with rice (powdered), arrowroot, flour, milk or cream, egg, barley.
3. Horlick's food, Mellin's food, malted milk, somatose.
4. Beef juice.
5. Gruels: Strained corn-meal, crackers, flour, barley-water, toast-water, albumin-water with lemon-juice.
6. Ice-cream.
7. Eggs, soft boiled or raw; eggnog.
8. Finely minced lean meat, scraped beef; the soft part of raw oysters; soft crackers with milk or broth; soft puddings without raisins; soft toast without crust; blanc mange, wine jelly, apple sauce, and macaroni.

From this list the writer would eliminate the soups, the beef juice, and the minced lean beef. It has been his experience that all these preparations tend to produce or to aggravate pre-existing diarrhœa, and the beef broth, as is well known, provides a very favorable culture medium for the typhoid bacillus. He states that he has frequently seen the animal broths substituted for milk, and active, ill-smelling diarrhœa with great flatulence has followed. To this list he thinks soft cup-custards may be added, and instead of limiting the patient to milk with the white of egg, the entire egg boiled just long enough to take away its raw taste, and yet not to harden the white, may be given. He has recently seen the most valuable results follow this diet, and he states that from one to six eggs prepared in this manner and administered by means of a spoon or in a cup if the patient is strong enough to drink, will do much toward maintaining strength, particularly in cases in which milk is not tolerated.

A Case of almost Complete Unilateral Absence of the Cerebellum.—Dr. T. Neuburger and Dr. L. Edinger, in the *Berliner klinische Wochenschrift* for January 24, 1898, relate the following case (*Treatment,* March 10th): The patient was a man, forty-six years old, who had always been perfectly well, with the exception of some dyspeptic trouble. He had repeatedly been examined by several physicians, who had found him somewhat nervous, but otherwise healthy. He was a married man and had several healthy children. He was an excellent business man and had never shown symptoms which would draw attention to an abnormal state of his nervous system; there was no polyuria, there was no albumin or sugar in the urine, and the knee-jerks were equal on both sides.

On January 1, 1896, the patient had several fainting fits, and from that time began to have a very sluggish action of the bowels; defæcation was often accompanied by a "sinking feeling" which lasted only a few minutes and soon passed off again.

Thus a whole year passed. On January 1, 1897, the patient, while straining, had a fainting fit; the head and eyes were turned toward the left side, and the pupils were widely dilated and did not react to light. Consciousness was soon restored; the pulse was strong and there were eighteen beats a minute, and the reaction of the pupils was normal. There were repeated attacks on the succeeding four days, the intervals between them became shorter, and the pulse rate sank to twelve beats a minute. During these attacks the face was pale and drawn toward the left side; the eyes also looked toward the left side and were fixed. Death took place on the 9th.

At the post-mortem examination, which was made by Professor Weigert, the right cerebellar hemisphere was found to be almost completely absent; a gray mass of the size of a cobnut was all that could be found, attached to the right side of the middle lobe (vermis). The middle and left lobes of the cerebellum were absolutely normal; the pons tapered on the right side. The right trigeminal nerve, the origin of which is normally covered by fibres belonging to the pons, could be seen arising from the lateral portion of the pons. The left olivary body was much smaller than the right; the left corpus restiforme was twice as large as the right.

All the capillaries in the gray matter round the central canal in the upper cervical segment of the spinal cord were engorged to such an extent that they had nearly burst; a varicose blood-vessel was also found in the space between the base of the posterior horn and the substantia gelatinosa, which had burst; the varicose vessel contained a clot; the hæmorrhage was recent.

The author's conclusions are as follows: 1. Absence of a whole hemisphere of the cerebellum in man causes no symptoms if the organism has had time to adapt itself to the altered conditions. 2. The presence of a varicose vessel near the origin of the accessory nerve makes it plausible that straining at defæcation irritated the cardio-inhibitory portion of the vagus. 3. Such a direct stimulation of the cardio-inhibitory nerves from the nucleus of the accessory nerve in man has hitherto not been observed. Unilateral or bilateral division of the accessory nerve produces acceleration of the pulse, a phenomenon which can only be explained as a paralysis of the cardio-inhibitory fibres. In this case slowing of the heart's action in consequence of irritation of the accessory nerve has been proved to be present, so that now we have sufficient evidence that in man also the cardio-inhibitory fibres of the vagus are derived from the accessory nerve.

New Inventions, etc.

DIGESTIBLE WAFER CYLINDERS FOR SUPPORT IN INTESTINAL OPERATIONS.

By George Wackerhagen, M. D.,
BROOKLYN.

In my latest experiments on animals (intestinal operations) I have adopted a material for support to the intestinal walls which has so facilitated the application of the sutures that it would seem nothing more could be desired. I think it may allege the following advantages:

1. It is digestible; therefore it need not be removed from the bowel after the sutures are applied.
2. It is easily introduced, and affords firm support while the sutures are being applied, also acting as a protection to the wounded internal surface for several hours after the operation.
3. It is inexpensive and easily prepared.

The following description will explain the plan of preparing the wafer tubes:

The cylinder molds, six inches long, are made of tin, and are not soldered together, but slightly overlapped, so that they may be compressed in order to remove them from the molded wafer. The tin molds extend beyond the wafer at either end. This is necessary in order to have sufficient surface under control for compression. They correspond in circumference to the Murphy buttons. Fig. 1 represents the shape intended for end-to-end approximation, and is an inch and three quarters long. A indicates the molded wafer material from which the tin mold is to be removed. The one shown in Fig. 2 is for side-to-side approximation, and is an inch and a half long. Here the molded material has two ridges, B, B, for the purpose of preventing displacement while the sutures are being applied. The one shown in Fig. 3 is for end-to-side (T-shaped) approximation. C, C, two inches long, is for introduction into the large intestine, and D, an inch long, is for the small intestine. The one shown in Fig. 4 is for gastro-enterostomy. E, E, two inches long, is for introduction into the small intestine, and F, an inch long, is for the stomach.

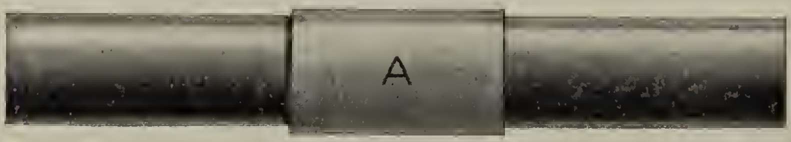

Fig. 1.

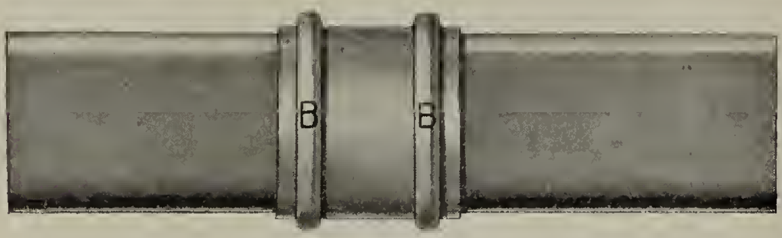

Fig. 2.

The following is a formula for preparing the wafer material: A very stiff paste, composed of flour and water, with the addition of a small quantity of salt, is rolled into sheets about a twelfth of an inch in thickness. These are cut to fit and applied to the various molds, upon which they are baked for about eight or ten minutes at a moderate temperature.

Another method of baking has been tried to prevent cracking—viz., removing the molds from the wafer before they are thoroughly baked, then returning the wafer to the oven and completing the baking. They are then removed from the tin molds, thoroughly washed in sulphuric ether, wrapped in sterilized cotton or gauze, and put in glass jars ready for use. I have found it a good plan to reinforce the seams with Squibb's flexible collodion, as they will sometimes crack at these points. I wish to express my thanks to Dr. J. H. Rosenkrans, of Hoboken, New Jersey, who has kindly cooperated with me in these experiments. The tin molds can be procured of Messrs. George Tiemann & Co., 107 Park Row, New York.

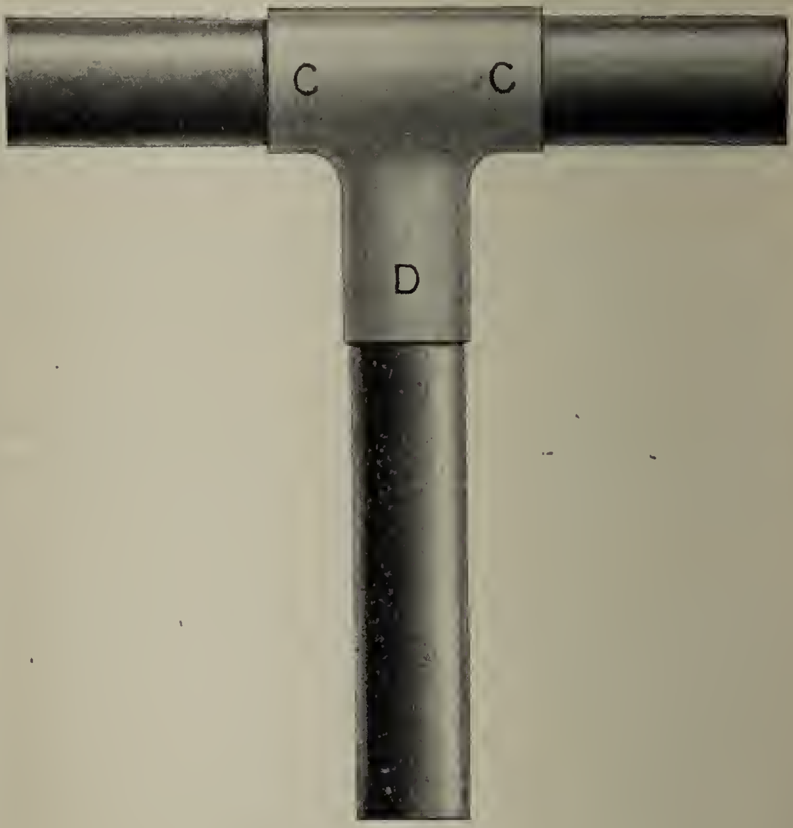

Fig. 3.

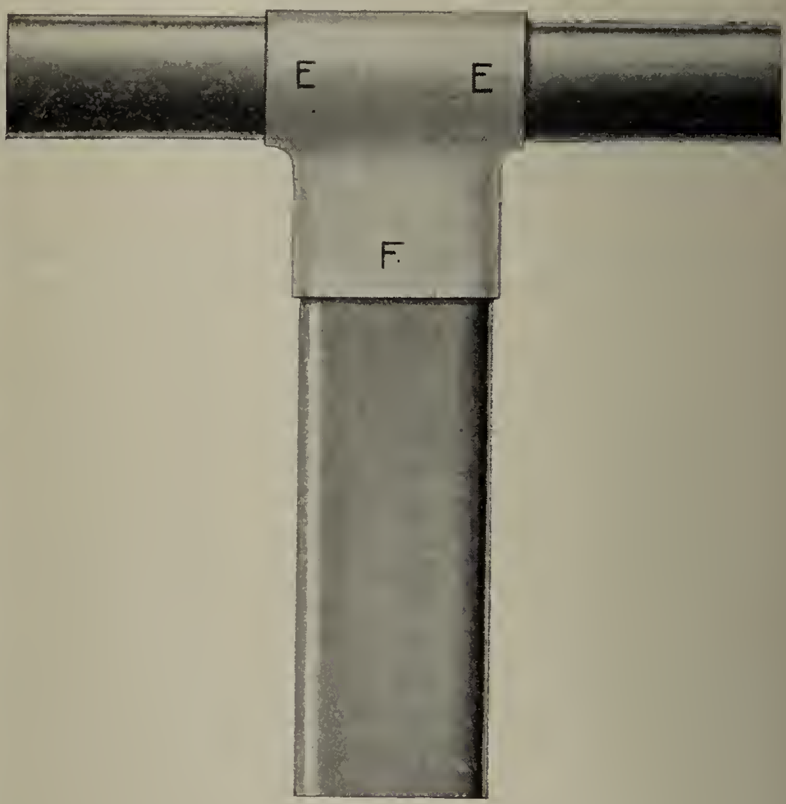

Fig. 4.

28 Seventh Avenue.

THE NEW YORK MEDICAL JOURNAL, April 9, 1898.

Original Communications.

A SUGGESTION IN REGARD TO SUGGESTIVE THERAPEUTICS.

By MARY PUTNAM JACOBI, M. D.

Notwithstanding the number of elaborate and ingenious theories which we now possess in regard to the phenomena of hypnotism, every medical discussion on the subject seems to reveal the absence of sufficiently definite formulæ for practical medical guidance. Neurologists will often state that they have hypnotized every patient in their wards for a while in order to see what would come of it; and when nothing came of it, they abandoned the method. This way of experimenting resembles that practised some thirty years ago in the Paris hospitals by Briquet. To ascertain the therapeutic value of large doses of quinine, he gave thirty or forty grains to every patient in his service. Noticing, after this medication, that such patients as were at the time lucky enough to be suffering from acute inflammatory rheumatism were improved, he assumed that large doses of quinine were a specific for acute rheumatism. And so they continued to be until later they were displaced by the salicylates. Without discussing in detail the numerous reports of already recorded cases, and without submitting to a fresh analysis, the already so often scrutinized rival doctrines of Charcot, Bernheim, Heidenhain, Myers, and others, we may, I think, from consideration of generally accepted facts, formulate this precise statement:

Hypnotic suggestion acts upon specific cases of either pain or disability which depend upon morbidly persistent organic memories of pain or disability. It is now generally conceded that memory is a general property of organic tissue, in virtue of which any event or series of events which has once occurred among its elements tends to reproduce itself indefinitely until interrupted by some new influence. From this point of view, organic memory constitutes one mode of the still more general property of matter which we call inertia.

In organisms possessed of nerve centres this general rudimentary tissue memory becomes complicated by a special circumstance. This is, that the events which transpire in the general somatic tissues excite secondary events in the nerve centres, because, by means of the nerve filaments connecting the periphery with the centre, an impression made upon the former is transmitted to the latter, is in a manner perceived by the latter. This secondary impression constitutes a record of the organic event, and when it is made upon the brain cortex of human beings, or even of the higher mammals, becomes what is especially known as memory.

Where, as in human beings, there are two systems of nerves, the cerebro-spinal of voluntary life and the sympathetic system for the vegetative life, the recorded memories of the former are so predominant and important that those of the latter fall entirely in the background.

The evidence of the record is extremely indistinct, because it does not rise into active consciousness. No neuromuscular action passes unperceived unless through mental preoccupation with other things. But all normal visceral processes do so habitually. Moreover, in numerous cases degenerative or malignant disease may, unperceived, effect extensive structural ravages in organs hidden from view, because the disease fails to excite the pain which is alleged to be Nature's warning signal of danger. If it be so, her sentinel often sleeps on his post, and even more often cries "Wolf!" with all the mendacity of the boy in the fable. The so-called conservative function of pain may have been present as such in the original intention of Nature; but in actual fact, this intention is woefully overlaid and distorted, as in so much else of the good dame's blunderings.*

If, as I believe to be the case, hypnotic suggestion acts specifically upon the memories of events recorded in or by the brain cortex, the relative obscurity of the record for visceral and nutritive processes would be a reason to greatly limit the efficacy of the method in regard to these. Experience shows, indeed, that hypnotism is not often efficacious in trophic disorders. On the other hand, there are a few cases, apparently well authenticated, where visible trophic lesions, like ulcers, have yielded to hypnotic suggestion. This is sufficient to show that the nutritive events which have led to the lesion have been recorded in the brain, and may therefore possibly be reversed by an influence exercised directly upon the brain and subsequently emanating from it.

The most interesting field for hypnotic therapeutics is admittedly that offered by the sphere of animal life. The most definite application is to cases of pain or of some specific functional disability, which have originated in an individual morbid occasion, whose efforts by good rights should have disappeared with the cessation of their cause, but which have, on the contrary, persisted.

A typical case is the persistent pain of hysterical joints, initiated by a sprain, but capable of lasting months after all symptoms of the sprain have subsided. I do not think we are much helped by calling such pains imaginary, or by saying that they "illustrate the influence of the mind over the body."

But let us look at it in another way, and instead of talking about the mind, which perceives or feels the pain, consider the brain, which records the event that has transpired within the cerebro-spinal sphere. In any case, and for the person with the most healthy nervous system the brain record will be made, for the accident can be remembered. But in the healthy person the sensory impression rapidly fades out of consciousness, out of memory, and only the accessory circumstances are retained. The injured person remembers the fact that he had sprained his foot, but he ceases to remember how he felt when he did it, and can not by any effort reproduce the conscious sensation. To use a customary terminology, the sensation sinks out of his supraliminal consciousness and falls back into the subliminal consciousness; it ceases to be a part of his present existence, and becomes only an item of his past experience. But as his total personality is made up of his present and past experience taken together, it may be said that no sensation once experienced is ever entirely lost. Normally, the past experience is submerged by the present, which is, perhaps, equivalent to saying that when fresh intracortical processes are being sustained in full vital activity, there is no room left for the monotonous repetition of an isolated process which has been excited by a peripheric stimulus. And of all the processes which may be so excited, those resulting in conscious sensation are evidently the most easily submerged, for a past sensation is immeasurably more difficult to reproduce than a past emotion or a past idea.

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* Facts like these recall the bold speculation of C. S. Peirce, that the realm of Law is not coextensive with the universe, but only extends over a certain, however large, area, beyond which is Chance.

With a normal brain it is, in fact, absolutely impossible to reproduce a sensation without repeating the stimulus which occasioned it.

Abnormally, however, this reproduction or this persistence occurs under several circumstances.

If the total vitality of the brain be for the moment diminished, the intracerebral process excited by a peripheric irritation assumes a disproportionate intensity to other intracerebral processes. Hence the familiar observation of the generation of persistent pain, neuralgiform or other, in anæmic, exhausted, or malnourished persons. Or if, from the original constitution of the brain and character, sensations habitually occupy a disproportionately important position in consciousness, the occurrence of a painful sensation tends to persist because the phases of conscious life which arise in incessant succession, so far from drowning out and submerging the sensation, are themselves invaded and absorbed by it. The emotions and ideas become enlisted on the side of the sensation, amplifying it far beyond its original scope, and by just so much tending toward its indefinite perpetuation. This seems to be the sequence of things in constitutional hysterics, to whose consciousness bodily sensations are always disproportionately important; or further, the circumstances accessory to the production of the sensation may at the outset enlist the other cerebral activities to the amplification of the sensation. Thus, when there has been such just cause for fright or shock, as often happens in traumatisms, or even when the pain has originated in an unfamiliar and therefore possibly mysterious procedure, such as the plaster-of-Paris apparatus for fracture, which caused a severe hysterical neurosis in a case related by Charcot. I have myself seen a similar case.

In cases like the foregoing, the present conscious life of the brain is permanently dominated by a past experience, morbid, not in its occurrence, but in its persistence. Admittedly an immense number of pains and painful affections are to be so explained. And it is precisely such pains which constitute the best objective for the therapeutic influence of hypnotism.

When this is successful it acts in two ways: By the sleep, wherein is initiated the amnesia characteristic of normal sleep; and by the suggestion, which focuses upon a narrow point, and therefore with great intensity, all the cerebral activity of the present moment. Without the suggestion, the hypnotic amnesia would be as transient as is the amnesia of normal sleep. But without this induced amnesia, which increases the suggestibility of the patient in a manner confessedly most mysterious, the suggestion would not obtain a sufficient foothold in the mind—*i. e.,* would not be recorded with sufficient depth in the brain.

The occasional successes of the faith curists, however, who operate by suggestion unaided by the sleep, show that the former alone is indispensable. The same proof is offered by more ordinary forms of suggestion. Evidently the imposed suggestion acts along the same lines as do the normal cerebral activities in the cases where a sensation promptly ceases with the cessation of its cause. The mind is made to think of something else. It is a familiar fact that under sufficiently intense mental preoccupation, severe irritation may fail to awaken sensations even at the moment of their maximum operation: thus wounds may be unfelt during the excitement of battle. Into the intense activity of the sum total of the brain processes the isolated process at the basis of the sensation is unable to intrude. If this paradoxical inability be possible for a present sensation, or, more correctly, for a sensory process whose cause is at the moment operative, it is more easily conceivable for the central brain process which is only reviving a past sensation. The reason that we ever forget anything is because, so long as the brain is alive, it is compelled at every moment to be occupied with something new. The necessity may be at least metaphorically compared to that by which mediæval writers were compelled to efface the writings already inscribed on parchments in order to utilize these for new inscriptions.

It does not seem as if chronic disease, certainly not chronic pain, had ever been included within the original scheme of Nature. Sudden injuries from external agents are evidently anticipated. These are to be as promptly arrested, resisted, and rejected. The wound may be fatal because overwhelming; but if less than fatal, it is expected to heal, and be forgotten as completely as a landslide on a mountain which has become overgrown with grass and trees. Modern life has become enormously enlarged by the modern strengthening and amplification of memory. Perhaps the vast enjoyments to the race of the historical memory of past ages, rescued by it from oblivion, are purchased in part at the expense of an inconvenient increase in the tenacity of the personal memory, and especially of personal organic memories, where forgetfulness is so often more desirable. The persistence of a disturbing past sensation tends to inhibit other cerebral activities, exactly as these, when fully developed, tend to submerge it. Hence, the well-known tendency to the constant increase in the range of morbid phenomena under the depressing influence of a single pain, either mental or physical.

It is cases of neurasthenia which have developed in consequence of such insistent insults to the brain that should be justifiable to hypnotism; while neurasthenia due to malnutrition, and with no primary cortical disturbance, rests on an entirely different basis, and demands different handling.

An extremely interesting circumstance about the post-hypnotic suggestion is, that it seems to encounter a definite, almost a measurable, amount of resistance, and this can only gradually be overcome. During the hypnotic sleep it is often possible to impose the wildest ideas upon the patient's acceptance, those most contradictory to all his past experience. But the post-hypnotic suggestion directed against his past and deeply rooted experience of pain can not proceed so abruptly. In many cases (I do not say in all) it appears that if the patient be assured that on awakening he will be entirely relieved of his pain, the suggestion will fail. If, on the other hand, he be told that his pain will be diminished, this holds true; and in successive *séances,* by successive diminutions, the vanishing point will be reached, or, to judge from some of the recorded cases, the assurance of complete relief will be followed by partial relief, and the apparent failure of the prophecy does not seem to occasion enough skepticism to prevent successive suggestions from accomplishing the purpose. These facts of resistance, gradually overcome, and which seem sufficiently well attested, point to the physical basis of the entire mental experience. In some mysterious way, whether dynamically or otherwise, it is unnecessary to speculate, a material record has been effected in the tissue of the brain, and this can only be changed through newly induced intracerebral processes. The facts may be utilized to throw light on the processes of conviction in regard to other mental phenomena than sensations. No belief once rooted in the mind is ever changed suddenly and *in toto.* If a man is being converted from the belief in eternal punishment, he first surrenders for ordination, then infant damnation, and finally, little by little, the whole blessed doctrine is upheaved, enucleated, and falls away under the pressure of mental activities occupied with something else. These grow beneath a fixed idea, intrinsically repellent, like granulation tissue beneath a foreign body in a wound, and push it, little by little, to the surface.

So with the morbid idea which constitutes pain, when, indeed, pain is a morbid idea. When it is not—*i e.,* when it is the normal response to a peripheric irritation—hypnotism can only act by securing intense mental preoccupation, and the hypnotic sleep must be prolonged during the occasion. In this way it seems sometimes to happen that the hypnotizer is able to overcome the violent suffering of childbirth.

The return of pain on awakening from an hypnotic sleep implies that the sensation which could not intrude itself upon consciousness during the intense preoccupation of that sleep is able to do so when this preoccupation relaxes, and the ordinary plane of consciousness is resumed. When a verbal suggestion made during the sleep begins to operate afterward, it is clear that the idea embodied in the suggestion has been apperceived, and has begun to modify the sensation. If the physical basis or aspect of the idea be, as we may provisionally conclude, some particular "set" of communications between cortical neurones, it should be expected that this must change with the apperception of every new idea, or, to put it in another way, the existence in consciousness of a new idea implies that the "set" of the combinations which coincided with the previous idea must have changed. In trying to persuade a person by ordinary suggestion to cease feeling a pain, because it is irrational to feel a pain for which there is at the moment no cause, the difficulty lies in the fact that to the "set" of combinations which begins to be established by the apperception of this suggestion is opposed the "set" which underlies the conscious sensation, so that the former does not succeed in establishing itself widely enough in the brain. It must, however, establish itself to a certain extent, or it could not be apperceived, recognized, at all. The same suggestion repeated during the amnesia of the hypnotic sleep encounters no opposition, and is therefore enabled to obtain a certain degree of foothold. With the disappearance of the amnesia the brain falls back into its previous "set," and the anti-hypnotic sensation reappears. But when, as happens in the successful cases, the sensation is weakened, this can only mean that other portions of brain activities have been so aroused as to oppose the extension of the cortical processes which underlie the sensation. The sensation had hitherto existed unchecked, because believed without question. This means that it had seemed perfectly congruous with all the mental phenomena existing at any present moment. And this again, on the postulate that to each mental phenomenon, if to any, corresponds some physical process in the brain tissue, must mean that the physical process in the ideo-sensory centre of the cortex did not interfere with the cortical processes otherwise or elsewhere going on, however much it had interfered with, had inhibited, processes which should go on, but which had ceased and had been forgotten from consciousness. The implanted suggestion that at a given present moment the pain did not exist, however really it might have existed in the past, shakes the hitherto unquestioning belief in the externalization of the sensory processes in the cortex; it tends to break up an hallucination to whose support the total brain activities had hitherto unwittingly conspired, and when the physical process to which the suggestion corresponds, the physical "set" of the brain tissue has been repeated often enough—the obstinate "set" engendered by a past and uncontradicted experience gives way. "Because I suffered once is no reason that I suffer now; as no new reason has arisen, it must be that I do not suffer. In fact, I do not suffer." These seem to be the successive phases of consciousness traversed by the subject of a successful post-hypnotic suggestion.

The so-called "subliminal consciousness" is the totality of the past experience, including much ancestral experience. Since, under various influences, elements of this can be revived from the static records in the brain and called up into consciousness—*i. e.,* called from the past into the present—this may be named the potential self as distinguished from the actual self. In combating an isolated mental phenomenon, as a centrally originated pain, the suggestion appeals to this mass of intricately recorded experience. It must be congruous with this, for if incongruous, it will be influential only so long as the hypnotic sleep lasts, and can have no after-effect. All the previous "sets" of the brain during which no pain has been felt may be revived to establish the predominant habit by whose predominance the isolated experience of pain is gradually crowded out.

If the totality of organic experiences did not so preponderate, the post-hypnotic suggestion would be ineffectual, because it would have no support, no "purchase" in fact. Indeed, it is ineffectual where the elements of the brain cortex are organically diseased, as in insanity, imbecility, or idiocy; where their functional combinations or "sets" are presumably feeble, as in severe hysteria, and in neurasthenia with certain grades of mental feebleness; in the grand neuroses, where ideo-motor or ideo-sensory centres are not primarily involved, as in epilepsy and hysteria major.

It is also ineffectual where the logic of the situation is strongly opposed to the anodyne suggestion, and affirms not only that pain is felt, but that it *ought* to be felt; as in most cases of operative procedure. Post-hypnotic suggestion seems to have no effect upon labor pain, yet it has proved possible in a certain number of cases to maintain an hypnotic sleep, with attendant analgesia throughout the labor. Here, however, it is necessary to maintain a constant reiteration of suggestion after pain; the class of cases characteristically suited to hypnotic therapeutics are those of functional or habit disability. These embrace phobias in the performance of certain voluntary and coordinate and complex actions of tremors and other muscular disabilities, the habitual incompetence of certain unstriped muscular organs—as the vesical sphincter in incontinence of urine, and the muscular coat of the intestine in habitual constipation, the recurrent irritability of other visceral muscles, as of the stomach in incoercible vomiting. The underlying principle in all these cases is evidently the same. The failure to perform a given act having been recorded in the brain, is remembered, and being remembered by an organism whose present vitality is insufficient, tends to repeat itself, the tendency increasing with every repetition. The tendency lies in the brain, not in the somatic tissues themselves, and the aim of the hypnotic suggestion must be to dislodge the deeply recorded memory of failure and to oppose to it a mental conception of success. The suggestion at first can present this conception as an idea; but, frequently enough repeated, this idea, like all others sufficiently impressive, becomes the personal experience of the person receiving it. As a present experience it is naturally more powerful than the memory of past failure. But as that memory has attained an unnatural predominance, it is necessary to temporarily obliterate it by the device of the hypnotic sleep during the time that the suggestion is being made to the mind, and is also being recorded in the brain. As in regard to the effect of post-hypnotic suggestions upon pain, the definite degree of resistance which is discovered to the suggestion as soon as the amnesia disappears (and this, although at the time the suggestion was made and apperceived neither consciousness nor evidence of resistance was present) proves that the suggestion acts through the indirection of a definite cerebral process, which ultimately counteracts another cerebral process already established. Functional disabilities, however, indicate clearly what is only hinted at in the case of morbid pain—namely, that cerebral activities are involved much in excess of those ascribable to any one sensori-motor centre. Emotions of fear, shame, despair, judgments of impossibility and inconceivability, are evidently all present—in other words, a large area of conscious life is invaded, or even, during the moments that the disability is made manifest, the entire area of consciousness. Hence the peculiar anguish which often attends these states. Yet this may be all resolvable into the single fact that the first experience of functional failure was not forgotten, but morbidly remembered, and that no contrary experience has yet been registered in the brain or consciousness. There seem to be more ways of getting round this form of morbid memory by simple, non-hypnotic suggestion than in the case of pain, and for the reason that the pain is constant, the disability intermittent and variable in degree, so that within the sphere of the voluntary muscles it is possible to build up experience of success by means of finely graduated effort, starting from any given minimum. This can not so readily be done in regard to the visceral disabilities, as vomiting, constipation, incontinence of urine, although in regard to the two first many indirect devices are familiar to physicians, and often employed.

The "auto-suggestion" to which authorities on hypnotism so often refer, and which is said to offer serious obstacles to hypnotic suggestion, can only be a certain "set" of the brain processes, or neurone combination be effected by the record of previous experiences. It is difficult to see how any will process can have anything to do with the matter. Indeed, I fail to understand how the will intervenes either in the theory of hypnotism or in modifying the course of its phenomena. Perhaps one of the greatest indirect utilities which is to result from the study of hypnotism may be the abolition of the fantastic attempt to urge the control of nervous phenomena of central origin by an energetic effort of the will. To the extent to which such phenomena depend upon central impressions they may be combated by other impressions, spontaneously or artificially generated. But such impressions can not voluntarily or willfully be produced.

From the moment the organism has deviated from its normal state of forgetting the past in the incessant creation of the present, which alone constitutes its sphere of consciousness, it has become dependent upon external aid for restoration. Happy he for whom such aid can be adequately secured!

The demonstration that the communication between the nerve elements or neurones of the nerve centres was effected by contact and not through continuity of structure, promptly and almost irresistibly suggested the hypothesis that this contact could be interrupted. Further, that through multiple rearrangements and combinations of contacts, and their interruptions, many physiological and pathological phenomena could be explained—thus sleep, hysterical restrictions of consciousness, etc. The doctrine has already been formulated by Lepine, who seems to have been the first to do so;* by Duval,† by Dercum,‡ who extends the theory to the explanation of hypnotic phenomena. I have not ventured to be so precise, but to use a more general formula which would remain applicable whether the new and fascinating theory of movable neurones be substantiated or not.

SOME EXPERIMENTS ON THE ASSIMILATION OF DIPHTHERIA ANTITOXINE.#

By C. FISCH, M. D.,
ST. LOUIS.

In submitting to your criticism the following few remarks, I have first to apologize for the desultory and abrupt form in which I am compelled to present them. The way in which my experiments necessarily were conducted, and the only very scant amount of time that I was able to devote to them, prevented me from arranging them in a more elaborate and æsthetic picture. I trust, however, that the theoretic as well as the practical interest clinging to them will procure me your forbearance.

Ehrlich, Kossel, and Wassermann some five or six years ago first established the fact that in female animals immunized against diphtheria and tetanus toxine, not only the blood serum exhibited the well-known antitoxic potency, but that the secretions of the milk glands, too, were charged to a considerable degree with it, although much less so than the serum. In an exceedingly fascinating and ingenious series of experiments Ehrlich was able to show that nursing animals, when inoculated with sublethal doses of toxine (that means when immunized during the nursing period), conferred immunity to their suckling offspring. These investigations have afterward been repeated several times, always with the same results; as experimental animals, mice, goats, horses, and cows were employed. Two French observers * went so far as to make out a table of the proportional antitoxic potency of serum and milk in the same animal (horse).

The salient point, of course, was the immunization of the suckling young by means of this antitoxic milk; that means the question, whether by absorption along the gastro-intestinal tract of an antitoxic fluid the antitoxic property can be appropriated by the organism—whether passive immunity can be produced in this way. For certain reasons the general trend of explaining the facts mentioned was not in favor of this hypothesis. It was deemed much more probable that while immunizing the mother animal small quantities of toxine were directly transferred to the young, and that so an active tolerance for the poison, an active immunity resulted. The facts observed in animals were largely borne out by observations on human beings. It was well known that suckling infants were rarely attacked by infectious diseases from which their mothers were suffering; this was especially evident in diphtheria and typhoid.

Much more important, however, became statistical investigations, which showed that the mortality in breast-fed infants from infectious diseases was enormously smaller than that of artificially fed babies, a fact for which no other explanation could be brought forward than the presence of antitoxic energy in mother's milk. Finally, the question, so far as infants or young animals are concerned, could be considered solved by direct experiments—I only mention the names Schmidt and Pflantz, Metschnikoff, *et al.*—experiments in which infants were taken from a healthy mother and nursed by a woman that had gone through an attack of diphtheria. In every case in the blood of these infants the presence of the specific antitoxic potency or body could be demonstrated. The animal experiments were conducted on mice, which were given up to a mouse immunized against tetanus; here, too, a direct transfer of antitoxine was the result.

In view of these facts, it is surprising to find so few attempts in the literature at administering antitoxine by way of the gastro-intestinal tract. While even

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* Un cas d'hystérie. *Revue de méd.*, 1894, p. 727.

† Théorie histol. du sommeil. *Soc. biol.*, 1895, p. 74.

‡ *American Journal of the Medical Sciences*, 1896, cxii, 151. Ramón y Cajal admits passive movements by interposition of neuroglia cells.

# Read before the Bethesda Pædiatric Society, February 3, 1898.

* Salomonsen and Madsen. *Ann. de l'Inst. Pasteur*, vol. xi, p. 315.

Escherich,* only a few weeks ago, was compelled to acknowledge that infants might be safely immunized by giving the serum by mouth or by rectal injection, he positively maintains the position that such a modus is only effective in infants, and does not hold good for older children or for adults. Other authors think differently. The result of the perusal of the few treatises and notices published on the subject is that the main question, the question of absorbability of antitoxic serum by the digestive tract, has not as yet been definitely settled.

The practical value of a definite knowledge about this subject is apparent, hypodermic medication, especially in children, always being a somewhat annoying and trying task. But for me the greater interest consisted in the light that a conclusive solution of the problem might shed on the intrinsic nature of the antitoxine. Did not but lately Behring himself despairingly admit the possibility that in antitoxine we might not have to deal with a definite chemical compound, but rather with a form of energy, likening it to the magnetic force produced in iron under certain conditions? The probability must be considered that if such an antitoxine, whatever it be, is absorbed unaltered by the mucous membrane of the digestive canal, it rather represents a stable compound, a definite substance, than a mere potential energy inherent to substances that certainly are changed during their passage through the same.

Very beautiful investigations, of which the first notice came to us from Germany last week, bid fair that our ideas on this matter will soon be revolutionized, or at least will be settled definitely. Once more mysticism has to yield to logic, although I did not know which one of the two is the better or the truer alternative.

My experiments were begun in a merely qualitative way on animals and ended in a series of quantitative tests on the species *Homo sapiens*. I had at my disposal the milk of a number of goats and of a cow, which had been previously immunized against diphtheria in the ordinary way to a fairly high degree. The cow's milk, at the time my experiments commenced, had an antitoxic potency of four antitoxic units to the cubic centimetre, while that of the goats was a little less powerful (2.3 to three units to the cubic centimetre). I did not test the serum of these animals, but concluded from analogy that its potency was eighty to a hundred and ten units to the cubic centimetre. I will add that the cow afterward succumbed to general cachexia following a large injection of toxine, while several of the goats escaped death from impending paralysis by the hypodermic administration of pilocarpine.†

From a litter of puppies four were selected (two males and two females) after they had become four weeks old. Their weight was approximately the same (twelve to fourteen hundred grammes), as was their general condition. By means of a rubber syringe one ounce (about thirty cubic centimetres, that means one hundred and twenty units) of antitoxic cow's milk was slowly forced down the throat of one (No. 1) of them; at the same time a hypodermic injection of one tenth of a cubic centimetre of diphtheria antitoxine (ten times the fatal dose for a guinea-pig of three hundred grammes) was given in the abdominal wall. Another puppy (No. 2) received the same injection of milk, while the toxine injection was given twelve hours later, and, finally, a third (No. 3) animal got the milk twelve hours after the toxine injection was administered. As control, the fourth dog was injected with a tenth of a cubic centimetre of the toxine alone. The result of the experiment was that all of the four dogs died. But there was a very decided difference in the time elapsing between the injection of the toxine and death. The control and No. 3 died thirty-four and thirty-six hours respectively after the injection. No. 1 lived sixty hours after the injection, while No. 2 survived as long as four days (ninety hours) after the injection of the poison. He seemed to succumb more to a very extensive necrotic and gangrenous degeneration of the abdominal walls than to a direct intoxication, which latter was the case in the three other animals, who showed comparatively little local reaction (some œdema and infiltration), but exhibited the most complete picture of paralysis (of the hind extremities mainly). The retarding influence of the antitoxine given by the mouth is apparent, although in no case was it sufficient to save the animal. I must remark, however, that young dogs are exceedingly susceptible to the poison, and that the dose I employed was certainly much too large.

As an instructive fact, proving that it is the susceptibility of an animal for a toxine that determines a certain amount of antitoxine for neutralizing the poison, rather than the absolute quantity of the latter, I may be allowed to incidentally add that in one of two other puppies a fourth cubic centimetre (one antitoxic unit) of milk was not sufficient to counteract a tenth cubic centimetre of my toxine (which in a guinea-pig it would have done), while the second puppy with a half cubic centimetre of milk (two units) escaped unharmed.

A number of kittens served for another experiment; they were only a few days old (eyes not yet opened) and had to be artificially fed. The toxine injections (a twentieth of a cubic centimetre) were given as usual on the abdominal aspect. The outcome was more satisfactory, inasmuch as I succeeded in keeping three out of five kittens alive, when injected with a dose of toxine that proved fatal in a control within thirty-six hours. One of the three animals died afterward from the weakening effect of a necrotic ulceration at the site of injection. Two animals perished sixty and ninety-six hours respectively after the injections had been made, and these were the ones that had received milk and toxine at the same time. The three first-mentioned were inoculated twelve, twenty-four, and thirty-six hours respectively after the milk had been administered. As to the amount of milk, I limited it to what an animal would take at one nursing.

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* *Wiener klin. Wochenschrift*, 1897, No. 48.

† The milk of these animals may be condensed, and with proper precautions it keeps for a long time. A condensed sample of antitoxic goat's milk is now as effective as it was six months ago, when it was prepared. By the addition of a large quantity of sugar it can be made into a very pleasant preparation.

This experiment with kittens I have only lately repeated with absolutely the same results, only that in this case instead of antitoxic milk I employed the antitoxic serum itself. If so, it seems to be undoubtedly possible that an absorption or assimilation of antitoxine can take place in very young animals when introduced into the digestive tract. The conditions are said to be different in adult animals. In order to find out the truth of this assertion my next series of animal experiments dealt with adult guinea-pigs. It was not only the convenience that led me to select them, but the consideration that if in a herbivorous animal the test should prove the result positive, this ought to be in a higher degree so in carnivorous animals, or in those partaking of a mixed diet. I took, however, the precaution to compel the animals to be submitted to the experiment to fast for twenty-four hours previously. The gastric capacity of an adult guinea-pig (five to six hundred grammes) is about forty grammes, therefore the dose of milk was never increased above twenty cubic centimetres. Six adult animals treated in this way (injected with toxine twelve, twelve, twenty-four, twenty-four, thirty-six, thirty-six hours respectively after the injection of milk) remained perfectly healthy. The control animal died promptly within thirty-six hours (a tenth cubic centimetre of a one-hundredth toxine). Of course, it will be seen that the amount of antitoxic material far exceeds the amount necessary to neutralize the toxine; but it was not my intention to determine the degree to which absorption had taken place. I clinched the evidence by the following tests: An adult guinea-pig was treated to twenty cubic centimetres of antitoxic milk, in the way described, on three consecutive days. Forty-eight hours after the last artificial feeding it was killed, its blood collected, and the serum separated in the ordinary way. This serum protected another animal in the dose of at least a cubic centimetre against five times the fatal dose of toxine; more accurate determinations were omitted.

A parallel series of tests followed this milk test with ordinary antitoxic serum in the place of the milk; results absolutely the same. Guinea-pigs that received serum by mouth and toxine hypodermically at the same time died invariably, while when the toxine injection was given about twenty-four hours afterward the animals were sure to be saved.

Without going into any experimental details, which only would have served to tire you, I think that the evidence produced is sufficient to admit of the assertion that absorption of antitoxic substances or of substrata invested with antitoxic potency can really take place by way of the mucous membrane of the gastro-intestinal canal even in adult animals. But there are certain discrepancies in the results, mainly connected with the time after which this absorption seems to have taken place, which made it desirable to attack the question afresh, with a view of getting an insight into the quantitative relations of the process. Many circumstances tend to make this impracticable in smaller animals. Therefore, the rest of my researches bear on experiments made on the human organism, and I have to thank some of my friends for kindly volunteering to submit to them.

Of course, in calling the following experiments quantitative, this word must not be taken in its mathematically correct meaning. It was only an approximate estimation that was attempted, and this I succeeded in. But before reporting them I would like to refer to a preliminary experiment, which was made to see how an artificial gastric juice acted on the antitoxic quality of our serum. One cubic centimetre of two hundred and fifty units serum was mixed with nine cubic centimetres of a solution of Fairchild's pepsin (in one one-hundredth per cent. hydrochloric acid, and the mixture kept in an incubator for two hours at a temperature of 57°). The simple fatal dose of toxine was then injected into three guinea-pigs, together with a proper amount of the digested fluid, which had been thoroughly neutralized with dilute NaOH solution. All three guinea-pigs survived and did not show any of the characteristics of diphtheria poisoning.

After this result I refrained from investigating into the effects of rectal injections of the antitoxine.

In making my calculations I had to choose for a pivoting point the result of investigations made by Madsen and others, who found that the quantity of antitoxine contained in the tissues of an immunized animal is *nil*, only sometimes the sexual glands (ovary and testicles) exhibiting some traces of it (the latter after Metschnikoff). The whole bulk of it is contained in the blood. This agrees very well with the latest brilliant researches of Wassermann and Tankaki * on tetanus antitoxine. I therefore calculated that the mass of the blood being one thirteenth of the body weight, in a certain amount of blood or serum a certain adequate amount of antitoxine ought to be retrieved, supposing that absorption to any extent from the stomach or the intestinal tract took place. The following reports will show that this supposition and calculation were correct.

I began with myself. After a preliminary test had shown that my blood did not possess any antitoxic properties whatever, I swallowed ten cubic centimetres of a serum that contained two hundred and fifty units to the cubic centimetre—twenty-five hundred units in all. My weight at the time was sixty-three kilogrammes, from which it would follow that I was the lucky possessor of twenty-one kilogrammes, or about twenty-one litres of blood. In one experiment, I, by puncture, drew after twenty-four hours from my finger some blood, of which exactly one cubic centimetre was immediately (before clotting) shaken up with nine cubic centimetres of distilled water. One cubic centimetre each of this watery solution, together with the fatal dose of one one-hundredth cubic centimetre of toxine was injected into two young guinea-pigs of three hundred grammes. Both remained healthy, justifying the conclusion that that tenth cubic centimetre of blood contained enough antitoxine to neutralize the simple fatal dose. Brought in connection with the total amount of antitoxine and blood, which had a bearing on this result, this would mean that of the 0.125 unit theoretically present in one cubic centimetre of blood the presence of at least 0.1 unit had been demonstrated.

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* *Berlin. klin. Wochenschrift*, 1898, No. 1.

Two similar experiments, the one made on me, too, six weeks after the first, and the other on Dr. M., yielded practically the same result, although in the case of Dr. M., instead of serum an adequate quantity of milk had been ingested, and the blood was not drawn until thirty-six hours after the injection. I shall not overtax your patience with an enumeration of the details of these two tests.

It is true both of us were healthy and in perfect physical condition, especially so far as the digestive function was concerned; and, if it may not be allowed to generalize from these two or three experiments, their importance lies in the conclusive proof that under certain conditions an almost entire absorption of antitoxine by the gastro-intestinal tract can take place.

As to the time which is needed to incorporate in this way the antitoxic substances or potencies, we learn from the foregoing remarks that it is completed within twenty-four to thirty-six hours. It would not only be interesting, but also of great practical importance, to determine as nearly as possible the shortest time in which this absorption may occur.

Dr. Z. was kind enough to furnish me with three different specimens of his blood, after the injection by mouth of twenty-five hundred units of serum. His weight at the time of the experiment was eighty-four kilogrammes, therefore the amount of antitoxic force to be looked for in 0.1 cubic centimetre of his blood was 0.09 unit, or nearly 0.1. The specimen taken before the experiment began proved to be absolutely inert. The specimen drawn after thirty-six hours was antitoxic to such a degree as to protect the usual size guinea-pig in the dose of 0.1 cubic centimetre (prepared as in the first experiment) against nearly one one-hundredth cubic centimetre of toxine. In contradistinction to this, the two guinea-pigs which were treated with the blood taken five and nine hours respectively after the antitoxine administration died from the simple toxine dose after thirty and thirty-four hours.

With Mr. H., a student of our college, I conducted the same line of experiments; blood was drawn four times: before, six hours after, eleven hours after, and twenty-four hours after swallowing the same dose of antitoxine. The outcome was that samples Nos. 1, 2, and 3 gave absolute negative results, while with the fourth sample it was easy to protect the animals against the fatal dose of poison.

It has therefore been established that while after twenty-four or thirty-six hours nearly the whole amount of antitoxine can be recovered from the blood, when the antitoxine has been taken by mouth, after five, six, nine, and eleven hours nothing or very little of it can be found. My experiments, of course, would not exclude the possibility that at these hours some antitoxine was present; on the contrary, that is very probable; but its amount certainly was small and not sufficient to protect animals against even very small doses of the specific poison.

I need not state *in extenso* the conclusions that it will be allowed to draw from these remarks. It seems, in the first place, that they tend to corroborate the theory of the chemical nature of antitoxine, and in the second place they show that with perfect safety immunization against diphtheria may be produced by oral administration of the antitoxic serum or the antitoxic milk. In the case of children the latter seems preferable. On the other hand they emphasize the fact that curative effects must not be attempted by this way of administration on account of the slowness of absorption, or at least of diffusion through the system; even for prophylactic purposes (in families where one member is infected, for instance) it must be employed only with careful discrimination of the conditions.

For speculative minds it would be a promising task to find out why it takes so long for this substance to be diffused through the body, while almost all other absorbable chemical bodies, when in contact with the intestinal mucous membrane, assert their presence in the circulation much earlier.

1635 S. GRAND AVENUE.

THE CLIMATIC INFLUENCE OF OUR SOUTHWESTERN STATES ON DISEASES OF THE RESPIRATORY TRACT.

BY W. FREUDENTHAL, M. D.

(*Concluded from page 422.*)

BUT let us leave this question for the present. You all have seen how patients who have been sent to a southern or western climate on feeling a little improvement return to New York as soon as spring arrives. I have always felt that we ought to prevent this, if possible. First, the trip from these States is very trying for a patient, and for many it is injurious; and, secondly, because a person who is sent away and is not perfectly cured will soon get worse on returning to the city. For this reason I have endeavored to find places in that vicinity where these patients could go during the hot summer months. I have succeeded in finding a good many suitable for this purpose and shall mention them farther on. As all descriptions of these districts will tell you, they are quite comfortable even in summer, the temperature only rising to 100° or 105°, or at most 110° F.

Now it is true that the thermometer does not measure temperatures as felt by animal life. The temperature we feel we will call the sensible temperature, in contrast to the actual temperature which is measured. To get an idea of the sensible temperature, we have to take the amount of humidity into consideration. The less humidity, the less we feel the high temperature. "Sultry" or "close" or "muggy" days, which we have so often in this climate, are unknown in the arid region. The humidity is very low all over there, and consequently we can bear great heat much easier than in our Eastern climate. Nevertheless, when the thermometer reaches 100° or over, we feel the heat very much, and when it rises to 117° F., as it was for a whole day on my trip, it is almost unbearable, in spite of the great dryness of the air. Of course, the people who are born and brought up there do not feel it so much. At one place—it was Mojave, I think—I saw, at a temperature of 140° in the sun, some eight or ten Indian women playing cards directly in the sun and enjoying it. But we, naturally, can not endure such extreme heat. At least I was sometimes really happy to get under a shady tree or the like. Nor was I the only one who felt the heat in this uncomfortable way. I met several army surgeons from the East, who were stationed in Arizona and New Mexico, who experienced the same discomfort, although they had been in these territories two or three years. My fellow travelers from San Francisco and the East felt the same discomfort also.

In several places I saw consumptives dragging along through the streets with the cold perspiration on their faces, and I felt that such high temperature of the atmosphere must certainly be injurious to them. But, as I said before, there is no necessity for their remaining in these hot places when they have much cooler ones plentiful in the vicinity. To give you an idea of the humidity of Arizona, in comparison to that of other districts, I quote Table I from a report of Mr. E. M. Boggs, of the University of Arizona.

The maximum temperatures for the same places were, according to Mr. Boggs, as given in Table II.

These climatic conditions are similar in New Mexico.

I shall now describe several places I have seen, and follow generally the railway which I took:

At La Junta, Colorado, the road divides, one branch going northward to Denver, the other south into New Mexico. I followed the latter, and on a hot summer's day we passed Trinidad and then, ascending, we tried to reach the Raton Pass, which is nearly seven thousand feet above the sea level and is a dangerous place for many consumptives who, coming from the East, are quite suddenly brought to such an elevation. Hæmorrhages are said not unfrequently to occur here. After passing through a long tunnel at Raton the train rushes down, soon to climb up again and to reach the well-known place of

Las Vegas.—The altitude of Las Vegas is six thou-

TABLE I.—*Relative Humidity in 1893*

STATIONS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
	Per cent.	Per cent.	Per cent	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Jacksonville	66	80	72	72	74	78	74	81	82	78	82	81	77
New Orleans	71	79	70	79	77	80	77	74	77	71	83	79	77
Galveston	79	91	83	89	84	83	78	78	80	70	83	86	82
University of Arizona, Tucson	36	48	54	31	28	22	48	65	45	32	50	45	42
Los Angeles	69	73	79	71	75	75	77	77	77	73	74	63	74
San Francisco	81	70	82	80	76	75	82	87	79	77	82	81	79
Denver	39	54	52	43	49	38	45	48	35	38	43	43	44
St. Paul	75	73	75	75	60	65	60	63	65	71	67	79	69
Chicago	88	84	80	77	74	74	72	66	66	71	76	83	76
Albany	84	85	78	71	73	74	71	74	79	79	79	81	77

TABLE II.—*Maximum Temperatures in 1893.*

STATIONS.	Elevation above sea.	January.	February.	March.	April.	May.	June.	July.	August	September.	October.	November.	December.	Annual.
	Feet.													
Jacksonville	43	72°	89°	84°	90°	93°	95°	100°	95°	96°	88°	84°	77°	100°
New Orleans	54	72	72	79	84	90	94	94	93	95	86	80	79	95
Galveston	42	70	72	78	80	86	90	92	91	92	86	79	74	92
University of Arizona, Tucson	2,432	73	80	92	91	98	107	107	102	99	92	84	76	107
Los Angeles	330	84	79	88	84	90	90	89	92	90	91	86	88	92
San Francisco	153	60	69	78	72	74	90	74	72	72	79	74	72	90
Denver	5,287	64	60	80	77	87	94	96	92	89	81	71	65	96
St. Paul	850	33	37	51	72	79	91	98	97	94	82	74	40	98
Chicago	824	46	46	69	84	83	85	94	95	95	81	67	58	95
Albany	85	45	51	52	72	88	96	92	94	79	75	58	54	96
Boston	126	53	53	58	68	88	94	91	93	80	79	68	57	94

sand three hundred and eighty-four feet. It has nine thousand inhabitants and twenty physicians. We reached it at about 7 P. M., and after a long, hot day in the cars we felt the pleasant sensation of coolness again. During the night I was cold and was glad to get something warm to drink in the morning. A few hundred feet higher, and at the very edge of the Rockies, is situated

Las Vegas Hot Springs.—The climate here is pleasant. "The days are so warm that wraps are rarely required," one of the pamphlets says. The heat is not unpleasant, but most of the summer days are a source of enjoyment for the tourist and the health-seeker. Every known form of bath is administered in the bath house at the springs. There are good hotels, beautiful scenery, and the place is well patronized. Farther down is

Santa Fé, the capital of New Mexico. Its altitude is six thousand nine hundred and thirty-nine feet, and its population numbers about eight thousand. It is noted for its absence of sudden and high winds, its dryness, and its pure air. The nights are cool and the days warm but pleasant. I met here a great many consumptives.

At *Albuquerque* I did not stop, but I know that there are good physicians in that town.

On our way down to El Paso we saw the old Mexican villages of Belen, then Socorro, and San Marcial, which I only desire to mention as health resorts, especially for the winter months.

Rincon is a small place of a few hundred inhabitants. Game is fairly abundant here, and those who are fond of shooting can find ducks, quail, rabbits, deer, and even bear. Rincon is four thousand feet high. It makes a very favorable impression, and I did not find it hot in July. It is protected against strong winds by high mountains on almost all sides. A few miles distant from Rincon is

Hatch, which is only a post-office station for the Mexican village of

Colorado.—The air in this little village seemed to me to be exceptionally pure and bracing. There are nice hills and higher mountains in the immediate vicinity, and any one fond of hunting, light farming, or horseback riding can find plenty to do to pass his time in a healthy and profitable manner. Of course, if one expects to find great hotels, theatres, etc., here, which, by the way, are injurious to health, he will be greatly mistaken. Nothing but adobe houses, and, with the exception of a few whites, who have nice houses, all Mexicans. There is no physician in the place. Somewhat in contrast to Colorado is

Deming, where there are about fifteen hundred inhabitants, most of whom are Americans. I found it very hot here and do not consider it the right place for a summer resort. In winter it is pleasant and warm. A little further up is

Hudson Hot Springs, a place that is very much frequented, especially by those afflicted with rheumatism. The last station on this small road is

Silver City, nearly six thousand feet high. It is much cooler than Deming, which is very near. "A silver city with a golden climate" is surely the proper name for it. In winter the temperature goes down sometimes to zero, but there are no sudden changes and the air is dry. Near by are great ranches on the Gila River, and I have met many young men of wealthy Eastern families who have lived on the ranches, on account of their health, for several years. Some of them like this cowboy life so much that they do not care to come back East. There are six physicians in the place.

Let us now return to Rincon, and we come to the beautiful Mesilla Valley. The principal place in this valley is the town of

Las Cruces.—It has a population of about three thousand, mostly Americans. There are here several good boarding houses, where good wholesome food is furnished at a reasonable price, while the air, even in summer, is delightful. I remained here for a week and never felt uncomfortable. A prominent physician writes: "As a resort for those afflicted with chronic lung trouble, I must say that I know of none other equal to it. First and indispensable, dryness. The average rainfall per annum, eight inches; cloudy and rainy days, about thirty. Second, temperature. In winter the nights are occasionally cold enough to form ice; in spring, summer, and fall cool enough to be bracing—no more; never hot. Thirdly, elevation. Four thousand feet is just the altitude to gently stimulate the circulation and render the breathing easy and free. Fourth, sunshine. A bright sun three hundred and thirty-five days in the year. In winter one can be comfortable from 9 A. M. till 5 P. M. with only a light overcoat, in the sunshine. In the spring, never too hot. In summer, always pleasant in the shade. The fall is like the spring. With a few exceptional days of windstorm or rainy weather, the invalid with chronic lung trouble can be in the open air for three hundred days in the year. Fifth, a porous soil of sand and loam, absorbing immediately the little moisture that falls, and sufficiently rolling to shed the rainfall." At a distance of about twelve miles are the extraordinarily beautiful

Organ Mountains.—They are in some parts truly Alpine in their character, and the only fault I had to find was that so very few outsiders visit them. They rise to an elevation of about eight thousand feet, and those who wish to reach the top of the peaks must be good climbers without any liability to dizziness, as in parts one is obliged to use a rope in ascending. But invalids do not need to make these ascensions, as, situated in a sheltered, romantic mountain nook, there is

Van Patten's Camp.—Here one can live in a plain hotel, or in a tent, for weeks and months without getting tired of the scenery and attractive walks. This is an exceptionally good place for the "*Liegekur,*" as it is so well protected. The Sacramento Mountains near Las Cruces I have not seen.

About two miles out of Las Cruces is a sanatorium for consumptives, the Alameda, which accommodates about fifty patients. It seemed to me to be more suitable for a winter sanatorium, as it was quite hot during my stay there. But everything about the place looked clean and neat. No physician is connected with the sanatorium. As a whole, Las Cruces offers more to the invalid than most of the places in New Mexico.

La Mesilla, situated in the well kept and designed Mesilla Park, is only three miles distant from Las Cruces, and can easily be reached on horseback, wheel, wagon, or even on foot. It is inhabited almost entirely by Mexicans.

El Paso, situated on the border of Old and New Mexico and Texas, has over twelve thousand inhabitants, is somewhat of a railroad centre, and has a great many flourishing establishments and business houses; but as a health resort it is *not* good. In summer the heat is at times very oppressive and absolutely unfitted for sick people, and in winter the temperature drops sometimes so suddenly during the night that it is often too cold for invalids. Besides, the dust of the streets, of the locomotives, etc., is so great and is so increased by local winds that I consider it unsanitary for any patient with affections of the respiratory tract. A commercial or business centre can never be a centre for health-seekers.

We will now leave New Mexico and Texas and come to that wonderful territory called Arizona. "The portion to be traversed is a land of prodigious mountain terraces, extensive plateaus, profound cañons, and flat arid plains, dotted with gardens of fruits and flowers, patched with vast tracts of pine timber and veined with precious stones and metals, alternating with desolate beds of lava, bald mountain cones of black and red volcanic cinder, grass-carpeted parks, uncouth vegetable growths of the desert, and bleak rock spires, above all which white peaks gleam radiantly in almost perpetual sunlight." (From a pamphlet, *To California and Back.*) My first stop was at Bowie Station, in the midst of the prairie. A few houses is all this place can show. From there the train took us to

Solomonville.—This place, that not long ago consisted of only a few dirty Mexican adobe houses, is now a prosperous town of about fifteen hundred inhabitants. All kinds of good fruit, wheat, barley, and alfalfa are to be had here in abundance. There are good restaurants in the place and one good physician. When the summer grows hot many inhabitants of Solomonville, as well as of other parts of Arizona, go to the *Graham Mountains,* which can be reached easily in a few hours' ride. Most of the people take everything they need with them, including tents, eatables, etc., or have the latter sent up fresh every few days. The pine forests there are simply delightful, the mountain water is ice cold, and the air as refreshing as can be desired. One favored spot in these Graham Mountains is *Camp Arcadia.* Although some roads near Solomonville are extremely dusty, the invalid can easily avoid them. About six miles from Solomonville is

Safford, a Mormon town, and, like most of those built up and inhabited by Mormons, very clean. I would not recommend Safford to health-seekers, as the roads all over are too dusty—summer and winter. In going back to Bowie and then along the road to Maricopa, we stop at

Tucson:—This is the oldest town in the United States, and is celebrated on account of its old church. It is twenty-four hundred feet above the sea, and its population is six thousand. In winter its climate is delightful and very suitable for consumptives, but in summer the heat is dreadful—day and night. For those, however, who remain at Tucson during the cooler months and do not want to travel a great distance, there may be recommended for the summer a place only thirty-eight miles distant—*i. e.,*

Oracle.—This is very highly spoken of as a climatic sanatorium for pulmonary troubles. It is situated about forty-five hundred feet above the sea level. This altitude seems to be sufficient to make the summer mild and pleasant without a single disagreeably hot day. The winters are equally void of extremes, mild and sunny. Close to the southward rises the rugged range of the Santa Catalina Mountains, whose peaks reach an altitude of ten thousand feet. To the north and west stretches an undulating plain, sloping northward to the valley of the Gila, and on the south the valley of the Santa Cruz. I think it is this topographic condition of Oracle that renders it free from wind and dust, and at the same time makes it pleasant in summer. The foothills of the Catalinas and the adjacent "mesa" are covered with live oaks, whose growth affords a picturesque and pleasing contrast to the so often treeless plains of the arid region. There are two good hotels at Oracle—the Arcadia and the Mountain View Hotel. The next place to be mentioned is

Phœnix, the capital of Arizona. Its altitude is one thousand feet, and its population numbers about twelve thousand. Phœnix is an *ideal winter* resort. The town is kept beautifully; there are long roads for bicycles and carriages that are almost free from dust, good drinking water, and good food in the hotels and boarding houses. The days in winter are warm and pleasant, the nights cool and exhilarating, the country green and pretty. Flowers and oranges abound there. The charm and healthfulness of Phœnix as a winter resort are almost unequaled. As a summer resort, however, I can not recommend it, as, judging by my own experience, it is too hot there. During my sojourn the temperature rose in the daytime to 110° F. in the shade. For those, however, desirous of escaping this great heat higher and much cooler places are very near. Among these I may mention Prescott, Ashfork, and especially

Flagstaff.—Flagstaff is the county seat of the celebrated Coconino County. It is almost seven thousand feet high, and has about fifteen hundred to two thousand inhabitants. It stands in the midst of the great San Francisco plateau, which extends over twelve thousand square miles. This extensive area, over all of which may be noticed volcanic action apparently still going on, is largely covered with pine trees and partly with other conifers. It is a wonderful country, and, though I have traveled all through it, and have seen and admired every spot, I can not do better than quote from Charles F. Lummis (*The Land of Sunshine*): "For one thing," says he, "it (Flagstaff) is destined to become an important point in the itineraries of intelligent tourists, not only as a charming summer resort, but as a centre of some of the greatest scenic wonders of the world. Not only is it a natural approach to the Pine Creek Natural Bridge, 'Montezuma's Castle,' 'Montezuma's Well,' and other marvels of that region; not only does it command the wonders of Cataract Cañon and Walnut Creek Cañon with its cliff dwellings and an important group of cave dwellings, but it is also the main entrance to that greatest thing in the world, the Grand Cañon of the Colorado. Add to this that it is a fine hunting country; that its forests, unmarred by underbrush, are one vast park in which one may ride everywhere, . . . and you begin to know some of the attractions that will make Flagstaff a Mecca of discerning travelers."

Flagstaff is made by Nature for a summer resort. The air is excellent, and, although during August it rains frequently, the rain seldom lasts longer than a few minutes, and it is so little that it is rather pleasant. I have seen many consumptives there, and think that in the near future many more will go there. Of course, we have to take into consideration the altitude (almost seven thousand feet), which excludes a great many tuberculous patients. According to my conviction Flagstaff is as beneficial for consumptives in summer as Phœnix is in winter. There are some very able physicians in the place. Flagstaff is also the most available gateway to the Grand Cañon of the Colorado River.

As much as I feel like describing my trip from Flagstaff to the sublimest of gorges and "Titan of chasms," the Grand Cañon, and the impressions it made upon me, I must refrain, as it would lead me too far from my subject. As things are now I should not advise any invalid to risk the trip (seventy-six miles in a stage) from Flagstaff to the Cañon. Rumor has it that a railway will be built shortly, and then we shall consider the Grand Cañon a summer resort as well.

In conclusion, allow me to mention only a few places which I touched on my return journey. I first stopped at

Ogden.—This is a nice, clean-looking place of about twenty thousand inhabitants, which seemed to me, with the exception of a few dusty streets, quite suitable for consumptives. Much more important is

Salt Lake City.—At an altitude of four thousand three hundred and forty-eight feet, it is located immediately at the foot of a range of mountains which reach an elevation of eight thousand feet. Here the patient finds the happy combination of great altitude with the beautiful and very wholesome bathing in the Great Dead Sea of America. These exceptionally favorable conditions will send, I am sure, thousands of sufferers in the near future to this city and its vicinity. That it has theatres, great hotels, and a population of seventy thousand is rather a disadvantage, but the beautiful bathing facilities and the fine bracing air more than compensate for these defects.

I have passed a great many places which are all well known to you—such, for example, as Manitou, Colorado Springs, Denver, and others—hence shall not speak of them now.

From my views expressed here and there in the course of this paper you may have noticed that for all classes of sufferers afflicted with any disease of the respiratory organs I prefer small places. One with ten thousand inhabitants seems to me almost too large for a health resort, unless it has such happy advantages as Phœnix or Salt Lake City. Three thousand is about as much population as any such place ought to have, although I should not like to put this down as a law. Still, the fewer inhabitants a health resort has, the more suitable it is for our purposes. The best, therefore, is a place without any inhabitants, and of such there are plenty and healthy ones in the region described above. If a man lives in the fields, has to hunt for his own game, and lives as primitive a life as possible, he will get rid of that terrible disease which is only an affliction of civilization—viz., tuberculosis.

REPORT OF TWO CASES OF

LARGE SUPPURATING OVARIAN CYSTS.

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These two cases, which were admitted to the same ward (private ward "B") in the service of Dr. Howard A. Kelly at the Johns Hopkins Hospital within four days of each other, present many features which we believe are of sufficient interest to warrant their being placed on record:

Case I.—A. E. S. was admitted January 9, 1897, and gave the following history: She is thirty-five years of age; single; white; born in the United States; says she first noticed an enlargement of the abdomen in September, 1896; is now about the size of a five months' pregnancy; amenorrhœa since September 15, 1896; suffers no pain, but has had hæmorrhoids, and has passed pus-like material per rectum, from time to time, for past two months. Menstruated at fifteen, twenty-eight-day type, four to five days' duration, free flow; no dysmenorrhœa; usually regular, but has missed her periods since September 15, 1896. No leucorrhœa.

Family History.—Both parents and one uncle died with consumption, otherwise negative.

Personal History.—Healthy as a child; typhoid at thirty-two years; had peritonitis in September, 1895; very ill four weeks. In September, 1896, she was ill eight weeks with what her physician said was malaria; had frequent chills and fever, and also first passed pus per rectum at this time. Her abdomen became considerably swollen and was exceedingly tender on pressure; has since remained swollen. Says she had "congestion" of the liver at this time; was operated on for hæmorrhoids in 1892; has suffered with obstruction of the rectum and constipation more or less since; now uses hard-rubber rectal dilators every morning. Urination normal and painless.

General Condition.—Thin, nervous, pale woman; tongue clean; appetite fair; bowels constipated; mucosæ, fairly good color.

Physician's Examination.—Urine negative. Heart and lungs negative; pulse 120, weak; lower half of abdomen symmetrically enlarged to size of five months' pregnancy; tumor dull on percussion, slightly fluctuating. *Per vaginam,* outlet slightly relaxed, cervix pushed down and to right; pelvis occupied by mass which seems incorporated with abdominal tumor. For the past eight days patient was under observation before operation. Temperature ranged from 98° to 101.5° F. and pulse from 96 to 130; but pulse constantly remained above temperature curve, the fluctuations of which were very marked and suggestive of a septic condition.

Diagnosis.—Suppurating ovarian cyst (left).

Operation, January 16, 1897, by Dr. H. A. Kelly.

Complications.—Extensive adhesions opening into caput coli. Part of wall of sac left behind on abdominal and bladder walls.

Operation.—Cystectomy. Incision in median line, twelve centimetres long, exposing cyst wall; puncture and evacuation of 2,860 cubic centimetres of fœtid pus; escape of pus into abdominal cavity; in puncture and enucleation, tumor torn on floor of pelvis, letting 100 to 150 cubic centimetres of pus out. Large hæmatoma filling lower pelvis opened, and handfuls of thick, puttylike blood ladled out—about 200 cubic centimetres. Right hydrosalpinx and adhesions were not removed but freed. Adhesions to caput coli freed; fistulous opening in caput coli, five millimetres in diameter; close to it is a black, ragged area, two by two centimetres, at the base of the appendix, which was adherent and about twice the normal thickness, but was not removed, as it showed no disease and the patient's condition was urgent. On the right side adhesions to the bladder and the anterior abdominal wall formed an irregular area, about six by three centimetres, running down to the cornu uteri; this was covered with peritonæum from side to side, after scraping off pus and lymph.

The ragged area on the colon was covered in by the base of the appendix, which was sutured over it by interrupted catgut sutures; silk sutures were used to close the opening in the colon; the abdomen was thoroughly flushed out with normal salt solution and twelve hundred cubic centimetres of this fluid were left in the peritoneal cavity. Incision closed with interrupted silkworm gut; 500 cubic centimetres of salt solution were also introduced under each breast. Duration of operation, thirty-nine minutes. Patient sent to ward in fair condition, with directions for foot of cot to be elevated twenty inches for at least twenty-four hours.

At time of operation patient's temperature was 99° F., pulse 125. That evening at 7, temperature, 98.4°; pulse, 124; fairly comfortable. On third day bowels moved; temperature, 98.8°; pulse, 100. On following day temperature and pulse normal; general condition good. From this time on her recovery was rapid and uneventful.

Dressings removed on tenth day; wound healed *per primam;* discharged one month after operation, cured.

Bacteriological Report.—Pus from the suppurating loculus of the cyst contained many bacteria; two cubic centimetres injected into flank of a guinea-pig caused death in twenty-four hours from general infection. Culture tubes made at the time of the operation, and from the autopsy of the guinea-pig, became contaminated; consequently it was impossible to arrive at a definite diagnosis as to the species of bacteria present. In view of the fact that the loculus was in communication with the intestine, it was most likely a mixed infection.

CASE II.—E. B. L., aged forty-seven years; United States; white; admitted to service of Dr. Kelly, January 13, 1897. Complains of slight pain in lower right abdomen, which is increased to size of sixth months' pregnancy. Married twenty-seven years; I-para, sixteen years old; easy labor; no ill effects followed; no miscarriages. Menstruation established at thirteen years, twenty-eight-day type, six to seven days' duration, moderate flow, always regular; last period terminated December 18, 1896; suffers with a copious yellowish, but not offensive, leucorrhœa.

Family History.—Negative.

Personal History.—Good.

Always enjoyed good health up to November 15, 1896. At this time she had a severe chill, lasting two hours, followed by fever. On the following day she felt badly; had great pain in abdomen; continued to suffer with pain in the abdomen and diarrhœa for a week. Since this time abdomen has been increasing in size, and she has grown progressively weaker, suffering from time to time with chills and fever, which symptoms were not affected by repeated and large doses of quinine; was up and down until last Monday, when she was obliged to remain in bed. Her physician, being summoned, insisted on a thorough examination and discovered the tumor.

General Condition.—Well nourished, somewhat fleshy woman; appetite poor; bowels regular; mucosæ of good color; has had slight cough for past month, evidently due to laryngitis. Heart and lungs negative. Urine negative. Girth of abdomen at umbilicus, 36 inches; girth of abdomen midway between umbilicus and symphysis pubis, 40 inches; girth of abdomen at xiphoid appendage, 34 inches; left anterior superior spinous process to umbilicus, 8.5 inches; right anterior superior spinous process to umbilicus, 8.5 inches; pubes to umbilicus, 8 inches; umbilicus to xiphoid, 6.5 inches.

Operation by Dr. H. A. Kelly, January 20, 1897.

Disease.—Large suppurating ovarian cyst.

Complications.—Extensive adhesions to mesentery, bowel, and vermiform appendix; adhesions to entire post-pelvic wall, to omentum, bladder, and abdominal wall; patient much prostrated.

Operation.—Cystectomy. Enucleation with part of wall left behind. Incision, fourteen centimetres long, exposed red, mottled, and whitish cyst wall, closely adherent to anterior abdominal wall to a point ten centimetres above symphysis. Omentum adherent over anterior face of cyst to the extent of an area ten by eight centimetres; adhesions separated and free oozing from thickened omentum checked by about four catgut ligatures; no omentum removed; just above this a fringe of flat, small intestine skirted the whole upper border of the tumor from left to right, and was firmly adherent to it; adhesions so dense that intestine was likely to be torn in effecting separation from the tumor. At this point the tumor was tapped and three thousand cubic centimetres of fœtid, thick, yellow pus evacuated and opening sewed up. About ten minutes were then spent in separating tumor from anterior abdominal wall, bladder, and anterior pelvis. Large left tube losing itself in tumor was exposed. Adhesions to uterus, pelvic floor on right side, and part of left wall separated. On floor of pelvis the sac ruptured, discharging about three hundred cubic centimetres of thick, brown, pasty blood; this was ladled out by handfuls. Ovarian vessels at left pelvic brim exposed by dissecting with knife, fingers, and scissors, and ligated; then left cornu uteri tied off and cyst cut loose from top of left broad ligament.

In separating adhesions on pelvic floor, broke into fœtid pus sac, with extensive discharge of residual pus. This was mopped up and hole in sac stuffed with gauze. Cyst cut loose, leaving an area five by eight cubic centimetres of sac on pelvic floor; gauze packed over this to protect it during the rest of the operation. Sac then pulled up out of pelvis to adhesions binding it to intestines and mesentery above; it was then found that the adhesions in the abdomen extended to entire length of mesentery and out on to intestines. These were too firm to separate without injury to gut. The cyst was then removed by slitting its outer layer two centimetres from bowel on all sides and dissecting this loose—in line of cleavage of cyst wall—with fingers and knife, and so completing the enucleation, leaving a cup-shaped upper part of the cyst wall attached to mesentery and intestines; this area was about eight by twelve centimetres. There was but slight capillary hæmorrhage from cyst wall left behind. The portion left in pelvis also required six or eight ligatures to control oozing. Small subperitoneal cyst on right side punctured. Right ovary normal but adherent; its tube also closed and adherent; adhesions of right ovary to sac bled freely, requiring two sutures to control them. The pelvis was first freely washed out with warm salt solution, and then the entire abdominal cavity. Seven hundred cubic centimetres of normal salt solution left in abdomen, which was closed, without drainage, with continuous catgut to peritonæum, interrupted (mattress) silkworm gut to fascia, catgut to close subcutaneous fat, and subcuticular catgut to unite skin; silver foil and usual dressing.

Patient removed to ward in fair condition. Pulse 144, respiration 48. In addition to usual order for strychnine, a sixtieth of a grain every two hours, the foot of cot was elevated twenty inches for twelve hours.

On the morning of operation her temperature was 103° F. and her pulse 116. On the following day, at 6 A. M., temperature was 99.6°, and only twice did it reach the 100° point during her convalescence. Her cough soon subsided under moderate use of codeine. Bowels moved on third day; dressings removed on tenth day; union *per primam*. From this on her recovery was rapid and uneventful. She was discharged from the hospital on the thirty-fifth day, feeling perfectly well.

Bacteriological Report.—At the time of operation the pus from the sac proved negative to cover-glass examination, and no growth appeared on agar-agar after seventy-two hours in the thermostat. We conclude, therefore, that the pus in this case was free from living organisms.

The distinction between large and small suppurating ovarian cysts must necessarily be an arbitrary one; but for convenience of discussion let it be agreed that cysts varying in size from an orange to a small cocoanut shall be regarded as small, while those which exceed these dimensions shall be classified as large cysts. The small cysts, especially if adherent to the floor of the pelvis, may be successfully treated by vaginal puncture, evacuation of the pus, and enucleation of the cyst wall, as has been recently demonstrated in Professor Kelly's clinic by Dr. Cullen. These cases do remarkably well when all the pyogenic membrane has been removed and the cavity loosely packed with iodoform gauze. It is self-evident that the large cysts are best managed, with their possible complication, through the median cœliotomy incision.

It is not our intention on this occasion to enter into a full discussion of the management of large suppurating ovarian cysts, but merely to emphasize certain points in connection with their treatment which seem to us to merit especial consideration.

In the first place, we desire to call attention to Dr. Kelly's method of dealing with extensive and firm adhesions binding the abdominal viscera to the cyst wall, as in Case II. These adhesions were so dense and extensive that it is doubtful if they could have been dealt with by the usual methods of dissection and peeling off with scissors, knife, and fingers; and had this method of separation succeeded, the shock caused by the delay in the operation at this critical stage, together with the hæmorrhage and extensive and prolonged handling of the intestines, would probably have proved fatal. On the other hand, his plan of incising the cyst wall to the extent of about half its thickness and two centimetres from the gut all around the area of adhesions, and then splitting the wall of the cyst in its line of "cleavage"—much after the fashion of splitting leather—reduced this apparently insurmountable obstacle to the further enucleation of the cyst in a few minutes to the insignificant risk of leaving a dead space and a portion of uncontaminated cyst wall in the peritoneal cavity, which in no way interrupted the recovery of the patient.

The second point in connection with the successful management of these desperate cases has already been clearly and lucidly brought to the attention of the profession by Dr. J. G. Clark * in his masterful plea for intraperitoneal drainage. We can not hope to add anything to his magnificent array of facts to prove that it is not only good, but the best surgery (with but a few exceptions) to follow the rule which he lays down, and which is now accepted and practised by Dr. Kelly, that "when in doubt don't drain"; but shall feel amply repaid for reporting these cases if we can assist in disseminating his views in favor of intraperitoneal as against the many dangers and disadvantages of the older methods of extraperitoneal drainage, which, we believe, if widely known and practised would materially reduce the mortality of abdominal operations. The method referred to is to disregard the apparent demand for drainage, which existed to an unusual degree in the two cases above described, and after thoroughly flushing the pelvic and peritoneal cavities with warm normal (six tenths of one per cent.) salt solution to leave in the peritoneal cavity from seven hundred to fifteen hundred cubic centimetres of this fluid, close the abdomen without drainage, and elevate the foot of the patient's cot twenty inches for twelve to twenty-four hours, thus assisting to establish an intraperitoneal current toward the diaphragm, which has been amply demonstrated to constitute the very best form of abdominal drainage.

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* A Critical Review of Seventeen Hundred Cases of Abdominal Section from the Standpoint of Intraperitoneal Drainage. *American Journal of Obstetrics and Diseases of Women and Children*, April and May, 1897.

In conclusion, I desire to thank Dr. Kelly for permission to report these two complicated and interesting cases.

Therapeutical Notes.

Agar-Agar in Dermatology.—At a recent meeting of the Paris Therapeutical Society (*Klinisch-therapeutische Wochenschrift*, February 13, 1898) Dr. P. Gallois recommended very highly the use of an agar-agar jelly as a vehicle for the application of remedies to the skin. The mixture has much to commend it. Its preparation is simple, merely the addition of one to two parts of powdered agar-agar to a hundred of hot water. There is no preliminary warning necessary, as with the gelatin vehicles. It is also cheap and easy of application. The patient takes a small piece of the jelly and smears it over the area to be treated. The thin film so formed dries very quickly and does not contract and pull on the skin as the gelatin film is apt to do, yet it produces the same cool, refreshing feeling when applied that is characteristic of the latter. Zinc oxide unites well with the jelly, and this mixture is an excellent one for eczema. Picric acid is incompatible, but corrosive sublimate may be used according to the following formula, and is recommended in erysipelas:

℞ Agar-agar	10 parts;
Corrosive sublimate, Tartaric acid, each	1 part;
Distilled water	1,000 parts.

M.

Dr. Gallois suggests also the use of this bichloride jelly as a lubricant for sounds, in which case it is advisable to add a small quantity of glycerin to prevent the drying of the mass on the instrument.

The Subcutaneous Injection of Quinine. — Von Stoffella, of Vienna (*Wiener klinische Rundschau*, 1898, No. 1; *Deutsche Medizinal-Zeitung*, February 28, 1898), recommends a solution that, he says, causes hardly any pain and does not give rise to inflammation. Thirty grains of quinine hydrochloride are dissolved in ten cubic centimetres of distilled water in a test tube with the aid of moderate heat. The reaction must be alkaline. Cooled to below 89.6° F., this solution becomes a rather firm mass, but it readily liquefies on being warmed.

The Internal Treatment of Pruritus.—The following prescriptions (*Progrès médical; Revue médicale*, March 9th) are attributed to Brocq and Jacquet:

1. ℞ Ammonium valerianate	1 part;
Syrup of mint	20 parts;
Linden water	125 "

M. S.: From two to four spoonfuls (size not specified) daily.

2. ℞ Extract of valerian	¾ of a grain;
Powdered valerian	a sufficiency.

M. For one pill. S.: From two to eight such pills daily. Or from two to fifteen drops of tincture of valerian may be given in the course of a day.

3. ℞ Carbolic acid	¾ of a grain;
Powdered licorice and gum arabic,	a sufficiency.

M. For one pill. S.: From two to eight such pills daily, after eating.

An Application for Urticaria.—Gaucher's formula is given as follows in the *Revue des maladies de l'enfance* for March:

℞ Alcohol, Chloroform, Sulphuric ether, each	3 parts;
Menthol	1 part.

M. To be applied in the form of spray.

The Treatment of Diabetes Insipidus in Children.—The *Revue des maladies de l'enfance* for March attributes the following to A. Monti:

1. ℞ Quinine sulphate	12 grains;
Zinc sulphate	3 "
Sugar	90 "

M. Divide into twenty cachets. Five to be taken in the course of a day.

2. ℞ Fowler's arsenical solution, Tincture of valerian,	... equal parts.

M. S.: From five to ten drops three times a day.

3. ℞ Chloral hydrate	from 15 to 30 grains;
Gum-arabic julep	1,500 "

M. S.: Three or four tablespoonfuls in the course of a day.

If these means fail, recourse may be had to this:

4. ℞ Ergot	15 grains;
Boiling water	2,400 "
Syrup	600 "

Infuse the ergot in the boiling water and add the syrup. Four tablespoonfuls to be taken in a day.

Guaiacol and Iodoform in the Treatment of Chronic Cystitis.—Gabriel Colin, according to the *Journal de médecine de Paris*, recommends the following (Picot's) formula:

℞ Guaiacol	5 parts;
Iodoform	1 part;
Sterilized olive oil	100 parts.

M. From ten to twenty drops are injected into the bladder once or twice a day.

An Ointment for Chapped Hands.—Steffen (cited in the *Indépendance médicale* for March 23d) employs the following formula:

℞ Menthol	10 grains;
Salol, Olive oil, each	22 "
Lanolin	675 "

M. S.: To be applied twice a day.

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THE LAPORTE AFFAIR OUT OF COURT.

There is a growing feeling in the medical profession in the United States that the ends of justice would be served better, cheaper, and with less discredit to medical testimony in general if we adopted the practice of referring medico-legal questions to skilled men appointed for the purpose or selected by the courts. But there seems reason to fear that this remedy for existing evils would not prove so radical as its advocates expect it to be. Something has occurred in connection with the Laporte case that may well lead one to this reflection. Laporte, as our readers know, has been acquitted. It seems that his conviction on the first trial was due largely to the weight attached to the testimony of two physicians, M. Maygrier and M. Socquet, who had been commissioned by the court to inquire into the facts of the case and had sworn to make a conscientious and impartial report.

In the trial on appeal, says the *Indépendance médicale,* these gentlemen abstained from urging their accusation, but their abstention was due not so much to regard for justice as to the general opinion of the medical profession, which had been very precisely formulated by Professor Pinard. But, once Laporte was definitively acquitted, they returned to the attack in a long communication, much graver than their first report, presented to the Society of Legal Medicine, their object being to secure the scientific condemnation of the man that had once been inculpated. Is the presentation of such a communication, fortified with confirmatory exhibits, after judgment had been rendered—is such a course, asks our contemporary, compatible with their oath to serve the cause of justice conscientiously? Is it allowable for the members of such a commission of inquiry to parade their grievances and their proofs, more or less exact, before a learned society after the accused has been acquitted? Why did not these public accusers substantiate their extraordinary attacks before the appellate court? Because, says the French journal, Dr. Laporte would have been there to defend himself and would have found plenty of authoritative defenders on every point.

The exact truth is, continues our contemporary, that there had to be a victim, at no matter what price, and M. Maygrier and M. Socquet chose to sacrifice this practitioner rather than bear the distrust thrown upon their lofty obstetrical accomplishments. The struggle is not between important skilled witnesses and a culprit; it is between two different schools. These gentlemen and perhaps other skilled witnesses are not willing to yield to the truth. They wish to appear right, to prove the truth of their reports, to demonstrate the magnitude of their knowledge; and, to accomplish their ends, they make use of the cruellest means, they trample upon an innocent man, and they pursue scientifically a brother-practitioner, a victim who has already suffered enough from their errors. It may well be asked, says our contemporary, if they realize what they are doing.

Socquet, the journal goes on to say, was deceived; he caused the arrest and condemnation of a physician guilty only of having done his duty. His conduct was severely criticised, as it deserved to be. Now, flanked by Maygrier, he has just committed voluntarily an act that the writer refrains from naming, preferring to leave that to the judgment of the medical profession at large, French and foreign. The writer adds, however, that from the scientific point of view, as well as from that of humanity, Socquet's conduct will meet with unanimous reprobation.

We have sought to give the full sense of the *Indépendance médicale's* strictures, and have carefully avoided heightening their caustic character. In view of the intensity of the indignation they reveal—an indignation which, we must say, is justified by the facts—it is difficult to understand that official investigators can be relied on implicitly. So far as changing our methods of procedure in medico-legal cases is concerned, it is better perhaps, for the present at least, "to bear the ills we have than fly to others that we know not of."

KERATINIZED SALT SOLUTION AS A REMEDY FOR SYPHILIS.

Notwithstanding the overthrow and rout of "therapeutic nihilism" that the last few years have witnessed, it has not yet come to be a common occurrence for us to meet with a proposal to supersede time-honored specifics in the treatment of such a disease as syphilis. Virtually, however, M. Lalande, of Lyons, makes such a proposal. His remedy, which is the product of the prolonged action of sodium chloride on an organic material rich in keratin, is described in the *Presse médicale* for March 12th.

The budding horns of calves at the proper age for butchering, horns not more than an inch long, are removed and powdered immediately after the animal's death. Sixty parts of the powdered horn are macerated in a thousand parts of distilled water in which ten parts of salt have been dissolved. The vessel in which the maceration is carried on is placed so that its temperature will remain constantly between 77° and 86° F., and for a month the liquid is agitated two or three times a day. Then it is allowed to remain in a dark room, at the same temperature, for four months. At the end of this time it is drawn off with a siphon and subjected for half an hour, in an hermetically sealed vessel, to a temperature of 194° F. After it has cooled completely the vessel is opened and the liquid is ready for use. It is described as yellow, limpid, having an odor suggestive of burned horn, and of a salty taste. It keeps perfectly well if the light is excluded from it. On analysis, its solid constituents are found to be gelatin, calcium phosphate, calcium sulphate, potassium sulphate, and sodium chloride, the first and the last of these substances greatly predominating.

M. Lalande states that he has employed this liquid in the treatment of syphilis for the last two years, and the results have been so satisfactory that he feels called upon to make them known. He has used it as a remedy for all kinds of syphilitic manifestations, and, although he has found it most active in the first and second periods of the disease, especially if no other therapeutic agent had been used previously, its action has been manifest in cases in which the "mixed treatment" has not yielded appreciable results. Among his own patients and those of M. de Beurmann, of Broca, he says, thirty have been treated with the remedy, including ten who had already taken mercury. Nine were in the primary stage, nineteen in the secondary, and two in the tertiary.

The liquid is injected subcutaneously, from one to three cubic centimetres at a time, preferably in the supraspinous fossa or the lumbar region, every week, every two weeks, or even every day, according to the features of the case. Rigorous asepsis is observed, but strong antiseptics are to be avoided. The primary phenomena, which are those of reaction, consist of local pain of a few minutes' duration and, in about three hours, a slight rise of temperature, with a little drowsiness and moderate sweating. No change is found in the urine except a slight increase of the urea in some cases. These phenomena all disappear rapidly, and the patient always speaks of a quite peculiar feeling of well-being. It is only the first few injections that are followed by pain. The curative action is usually observable in an amelioration after the third injection, and the lesions subside steadily—always in the course of from ten to thirty injections.

Dr. Lalande admits that it would be premature to judge of this new method by what he is now able to report, but he can not forbear to add that in his cases there have been no relapses. While he has no theory to lay down as to the mode in which the drug acts, he suggests that the action of a sort of serum may be coupled with a reenforcement of the natural powers of the ectodermic tissues by keratin, which is itself an ectodermic principle.

MINOR PARAGRAPHS.

THE BICYCLE FOR THE ONE-LEGGED.

In the *Centralblatt für Chirurgie* for March 19th Kramer, of Glogau, alludes to two articles on this subject, one by Breitung and the other by Brunner, published in recent issues of the *Münchener medicinische Wochenschrift,* and gives it as his own opinion that the bicycle is undoubtedly of great value to persons who have lost a leg. He quotes Brunner as stating that the excellence of the artificial leg worn is not of such great consequence as the skill of the rider.

A NEW BRAZILIAN JOURNAL.

The first number of the second volume of the *Revista da Sociedade de Medicina e Cirurgia,* dated January, 1898, has been received at this office. It is an octavo of fifty-two pages of reading matter. It is edited by Dr. Guedes de Mello, and published in Rio de Janeiro.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 5, 1898:

DISEASES.	Week ending Mar. 29.		Week ending Apr. 5.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	15	2	9	4
Scarlet fever	173	18	132	18
Cerebro-spinal meningitis	3	1	1	0
Measles	..	..	402	5
Diphtheria	163	26	169	23
Croup	4	2	13	5
Tuberculosis	195	115	183	126

The South Carolina Medical Association.—The forty-eighth annual meeting will be held in Harris Lithia Springs, on April 13th and 14th. In addition to the president's address, the programme includes the following titles: Cases of Diphtheria, with the Use of Antitoxine, by Dr. J. W. Wideman, of Due West; Observations on the Recent Cases of Eruptive Fever at the State Colored College, by Dr. W. H. Lowman, of Orangeburg; An Atypical Fever in Upper Carolina, by Dr. E. A. Hines, of Seneca; An Interesting Case of Fever, by Dr. F. W. P. Butler, of Edgefield; The Serum Diagnosis of Typhoid Fever, by Dr. Robert Wilson, of Charleston; A Case of Double Uterus and Two Pregnancies from the Same, by Dr. F. D. Kendall, of Columbia; Persistent Hysterical Manifestations following Ovariotomy, Relieved by Subsequent Operation for Extirpation of the Uterus—Report of a Case, by Dr. S. C. Baker, of Sumter; Stone in the Bladder, Accompanied by a Parasite Similar to the Oxyuris Vermicularis, by Dr. L. C. Stephens, of Barnwell; A Report of Cases in Abdominal Surgery, by Dr. W. C. Black, of Greenville; Some Surgical Cases from

My Experience in 1897, by Dr. G. R. Dean, of Spartanburg; Surgical Miscellany, by Dr. T. E. Nott, Jr., of Spartanburg; Remarks on the Treatment of Appendicitis, by Dr. S. M. Devaga, of Chester; A Report of Abdominal Surgery outside the Hospital, by Dr. A. B. Knowlton, of Columbia; Asthma, its Reflex Causes and Cure, by Dr. E. F. Parker, of Charleston; Hygiene of the Skin in Health and Disease, by Dr. J. C. Woodruff, of Charleston; Four Cases of Dislocation of the Lenses of the Eye in One Family, by Dr. E. F. Parker, of Charleston; and Liquor Sedans, by Dr. F. W. P. Butler, of Edgefield.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending April 2, 1898:

Small-pox—United States.

Little Rock, Ark	March 31	2 cases.	
Jacksonville, Fla	March 19–26	1 case.	
Arkwright, S. C	March 25	9 cases.	
Dyson, S. C	March 25	3 "	
Pelham, S. C	March 25	20 "	
Ridge Springs, S. C	March 25	1 case.	
Bluefields, W. Va	Feb. 28	5 cases.	

Small-pox—Foreign.

Prague, Bohemia	Feb. 26–March 5	8 cases.	
Rio de Janeiro, Brazil	Jan. 8–Feb. 18	11 "	1 death.
Cardenas, Cuba	March 5–12		1 "
Cienfuegos, Cuba	March 13–20		3 deaths.
Havana, Cuba	March 10–24	24 "	13 "
Regla, Cuba	March 10–24		24 "
Sagua la Grande, Cuba	March 5–19	197 "	3 "
Hamburg, Germany	March 5–12	2 "	
Bombay, India	Feb. 15–22		1 death.
Calcutta, India	Feb. 5–19		6 deaths.
Madras, India	Feb. 12–28		7 "
St. Petersburg, Russia	Feb. 26–March 5	10 cases,	4 "
Odessa, Russia	Feb. 26–March 12	13 "	2 "
Warsaw, Russia	Feb. 14–March 5		13 "

Cholera—Foreign.

Bombay, India	Feb. 15–22		4 deaths.
Calcutta, India	Feb. 5–19		51 "
Madras, India	Feb. 12–25		10 "

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	Jan. 8–Feb. 18	59 cases,	56 deaths.
Sao Carlos de Pinhal, Brazil	Feb. 28	Epidemic yellow fever reported.	
Havana, Cuba	March 10–24		2 deaths.
Regla, Cuba	March 10–24		1 death.

Plague—Foreign.

Jeddah, Arabia	March 25		3 deaths.
Hong Kong, China	Feb. 5–12	4 cases,	5 "
Bombay, India	Feb. 15–22		1,082 "
Formosa, Japan	Feb. 24–March 3	10 "	

The Western Ophthalmological, Otological, Laryngological, and Rhinological Association.—The third annual meeting was to be held in Chicago, on April 7th and 8th, under the presidency of Dr. B. E. Fryer, of Kansas City. The preliminary programme included the following papers: Moot Questions in Refractive Work, by Dr. H. Gradle, of Chicago; Recent Researches into the Histo-pathology of Trachoma, by Dr. A. Alt, of St. Louis; Miscellaneous Notes from Fifteen Years' Experience in Eye Diseases, by Dr. Barton Pitts, of St. Joseph, Missouri; Four Cases of Parinaud's Conjunctiva, by Dr. H. Gifford, of Omaha; A Report of a Case of Quinine Blindness, by Dr. James Moore Ball, of St. Louis; On the Use of Suprarenal Capsule Extract in Minor Eye Surgery, by Dr. J. A. Mullen, of Houston, Texas; The Antiseptic Preparation of the Conjunctiva for Cutting Operations of the Eyeball, by Dr. B. E. Fryer, of Kansas City; Dacrocystitis: Its Significance and Treatment, by Dr. A. E. Bulson, Jr., of Fort Wayne; The Science of Ophthalmology, by Dr. Dudley S. Reynolds, of Louisville; The Use of the De Zeng's Refractometer, by Dr. T. A. Woodruff, of Chicago; The Refractometer, by Dr. J. E. Jennings, of St. Louis; A Report of a Case of Tumor of the Cerebellum, by Dr. E. W. Heltman, of Toledo, Ohio; Mastoiditis, by Dr. E. O. Sisson, of Keokuk, Iowa; Mastoiditis of Dental Origin, occurring in a Diabetic, by Dr. Frank M. Rumbold, of St. Louis; A Report of a Case of Mastoiditis; Operation, followed by Unusual Complications, by Dr. H. W. Woodruff, of Joliet, Illinois; Mastoidectomy Involving Lateral-Sinus Complications, by Dr. J. O. Stillson, of Indianapolis; The Technics of Tympanic Inflation, by Dr. Edward Pynchon, of Chicago; A Review of the Pathological Conditions Affecting the Lingual Tonsil, by Dr. E. C. Ellet, of Memphis; The Non-operative Treatment of Catarrhal Diseases of the Upper Respiratory Tract, by Dr. William Scheppegrell, of New Orleans; A Further Report on Removal of Ossicles, by Dr. Norval H. Pierce, of Chicago; The Treatment of Chronic Suppuration of the Middle Ear with Gauze Packing, by Dr. Alice Ewing, of Chicago; The Submerged Tonsil, by Dr. Edward Pynchon, of Chicago; Detachment of the Retina, by Dr. J. O. Stillson, of Indianapolis; and The Politzer Air Bag, by Dr. W. H. Baker, of Lynchburg, Virginia.

Bequests to Philadelphia Hospitals.—By the will of Mr. George S. Pepper, of Philadelphia, who died on May 2, 1890, several hospitals receive bequests as follows: The University Hospital, $19,750; the Presbyterian Hospital, $18,500; the Pennsylvania Hospital, $18,500; the Jefferson College Hospital, $18,500; and the Orthopædic, the Charity, St. Joseph's, the Children's, St. Christopher's, and the Maternity, each, $9,250. Dr. William Platt Pepper, Mr. John S. Gerhard, and Mr. James B. Leonard, who are the trustees for the estate, report that there is a total increase of the estate since the testator's death of $199,836.84.

Medical Students who wish to go to War.—The students of the University of Pennsylvania have recently become enthusiastic over the freedom of Cuba. Dr. M. T. Stout, who formerly served in the United States navy, recently put the question to the class as to how many would enlist in the hospital corps, and two-thirds of the class stood up. They are now clamoring to have the examinations, which would ordinarily occur about the middle of May, made earlier. Many remember the death of Osgood, the Pennsylvania athlete, who lost his life last year in the fight for the independence of Cuba, and his sacrifice gives inspiration to the movement.

Hospital Abuse in Philadelphia.—A meeting of the Medico-legal Society of Philadelphia was recently held and plans were discussed relative to influencing legislation to regulate the use of free hospitals by the community at large. The main object of the society is that of organizing the medical profession through the county and State medical societies. At the next meeting, to be held this month, the society will adopt certain recommedations to be presented at an early date to the Philadelphia County Medical Society, thus placing their efforts on a firm foundation.

A Death Imputed to Vaccination in Philadelphia.—It is reported that Alice Dempsey, a girl six years of age, living in Germantown, was recently vaccinated and that septicæmia subsequently ensued, from the effects of which she died several days later at the Germantown Hospital.

The New York Electro-therapeutic Clinic, Laboratory, and Dispensary.—The third anniversary of the establishment of the institution, the work of which is conducted at No. 327 East Twenty-fifth Street, was observed at the house of Dr. Margaret A. Cleaves on Wednesday evening, the 6th inst.

Changes of Address.—Dr. Emil Altman, to No. 748 Fifth Street, New York; Dr. Arthur B. Duel, to No. 254 Madison Avenue, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 20 to March 26, 1898:*

Banister, John M., Major and Surgeon, will be relieved from duty at Fort Leavenworth, Kansas, upon the arrival there of Torney, George H., Major and Surgeon, and ordered to the United States Military Academy, West Point, N. Y., for duty.

Crampton, Louis W., Major and Surgeon, will be relieved from duty at Fort Meade, South Dakota, upon the arrival there of Gibson, Robert J., Captain and Assistant Surgeon, and is ordered to Fort McHenry, Maryland, to relieve Winne, Charles K., Major and Surgeon.

Gibson, Robert J., Captain and Assistant Surgeon, is relieved from duty at Fort Thomas, Kentucky, and ordered to Fort Meade, South Dakota, for duty.

Koerper, Egon A., Major and Surgeon. The order assigning him to duty as Chief Surgeon, Department of the Platte, is revoked.

Lynch, Charles, First Lieutenant and Assistant Surgeon, is relieved from duty at Fort Sheridan, Illinois, to take effect upon the completion of his examination for promotion, and ordered to Galveston, Texas, for duty.

McElderry, Henry, Major and Surgeon, now at Fort Leavenworth, Kansas, will proceed to Hot Springs, Arkansas, and report to the commanding officer of the Army and Navy General Hospital for treatment therein.

Poindexter, Jefferson D., Captain and Assistant Surgeon, is relieved from duty at Willett's Point, N. Y., and from temporary duty at Fort Hamilton, N. Y., and ordered to report to Gorgas, William C., Captain and Assistant Surgeon, for the purpose of assisting him in examining recruits in that city, including the borough of Brooklyn.

Stone, John H., First Lieutenant and Assistant Surgeon, is relieved from duty at Fort Riley, Kansas, and ordered to Fort Leavenworth, Kansas.

Torney, George H., Major and Surgeon, will be relieved from duty at the United States Military Academy, West Point, N. Y., on or about June 1, 1898, and ordered to Fort Leavenworth, Kansas, for duty.

Winne, Charles K., Major and Surgeon. The leave of absence on surgeon's certificate of disability granted him is further extended six months on surgeon's certificate of disability.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Fourteen Days ending March 24, 1898:*

Banks, C. E., Surgeon. Detailed as delegate to represent the service at Ninth International Congress of Hygiene and Demography, Madrid, Spain, April 10–17, 1898. March 15, 1898.

Woodward, R. M., Passed Assistant Surgeon. To rejoin station at Reedy Island Quarantine, April 1, 1898. March 21, 1898.

Smith, A. C., Passed Assistant Surgeon. To rejoin station at Gulf Quarantine. March 21, 1898.

Cumming, H. S., Assistant Surgeon. Assigned to Immigration Depot, New York, for temporary duty. March 11, 1898. Granted leave of absence for one month upon being relieved from duty at Immigration Depot, New York. March 16, 1898.

McMullen, John, Assistant Surgeon. To proceed to Philadelphia, Pa., and report to commanding officer for duty. March 21, 1898.

Lumsden, L. L., Assistant Surgeon. To proceed to Boston, Mass., and report to commanding officer for duty and assignment to quarters. March 15, 1898.

Anderson, J. F., Assistant Surgeon. To proceed to Mobile, Ala., and report to commanding officer for duty and assignment to quarters. March 15, 1898.

Board Convened.

Board convened to meet at Washington, D. C., March 16, 1898, to revise quarantine regulations.

Detail for the Board.

Surgeon H. W. Austin, chairman; Surgeon H. R. Carter, Passed Assistant Surgeon J. H. White, Passed Assistant Surgeon J. J. Kinyoun, Passed Assistant Surgeon G. B. Young, recorder.

Appointment.

L. L. Lumsden and John F. Anderson, of Virginia, commissioned by the President as assistant surgeons.

Society Meetings for the Coming Week:

Monday, *April 11th:* New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); Lenox Medical and Surgical Society, New York (private); Harlem Medical Association of the City of New York; Gynæcological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society (private).

Tuesday, *April 12th:* Alabama State Dental Association (first day—Montgomery); New York Academy of Medicine (Section in Genito-urinary Surgery); New York Obstetrical Society (private); New York Medical Union (private); Buffalo Academy of Medicine (Section in Medicine); Kings County, N. Y., Medical Association; Medical Societies of the Counties of Jefferson (quarterly—Watertown), Oneida (annual—Utica), Ontario (quarterly), Rensselaer, and Tioga (Owego), N. Y.; Newark (private) and Trenton, N. J., Medical Associations; Bergen (annual—Hackensack) and Cumberland (annual), N. J., County Medical Societies; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Fairfield, Connecticut, Medical Association (annual); Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

Wednesday, *April 13th:* Alabama State Dental Association (second day); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital; Tri-States Medical Association (Port Jervis), N. Y.; Medical Society of the County of Albany, N. Y.; Pittsfield, Massachusetts, Medical Association (private); Philadelphia County Medical Society.

Thursday, *April 14th:* Tennessee State Medical Society (first day—Jackson); Alabama State Dental Association (third day); Society of Medical Jurisprudence and State Medicine, New York; New York Laryngological Society; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Massachusetts, Medical Club (private); New London, Connecticut, County Medical Society (annual); Pathological Society of Philadelphia.

Friday, *April 15th:* Tennessee State Medical Society (second day); Alabama State Dental Association (fourth day); New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynæcological Society.

Saturday, *April 16th:* Alabama State Dental Association (fifth day).

Births, Marriages, and Deaths.

Married.

Mitchell—Flanagan.—In Vicksburg, Mississippi, on Monday, March 28th, Dr. Alexander Taylor Mitchell, of the navy, and Miss Columbia Flanagan.

Died.

Albright.—In Madison, N. J., on Saturday, April 2d, Dr. John Albright, aged eighty-two years.

Carter.—In Milwaukee, on Sunday, March 27th, Dr. Frank P. Carter, of Wauwatosa, Wisconsin, in the twenty-seventh year of his age.

Davis.—In Birmingham, Alabama, on Friday, April 1st, Mrs. Margaret O'Brien Davis, wife of Dr. John D. S. Davis, in the twenty-seventh year of her age.

Kindleberger.—In New York, on Monday, April 4th, Mrs. Mattie Lindsay Kindleberger, wife of Dr. C. D. Kindleberger, of the navy.

Little.—In Brooklyn, on Wednesday, March 30th, Dr. George S. Little, in the seventy-third year of his age.

Scovil.—In Richmond Hill, N. Y., on Friday, April 1st, William Arden, son of Dr. William Thomas Scovil, aged three years.

Proceedings of Societies.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of January 5, 1898.

The President, Dr. Robert J. Carlisle, in the Chair.

An Unusual Tumor in the Hypochondriac Region.—Dr. W. J. Pulley presented a man, twenty-four years of age, a porter by occupation. He had had no serious illness previously. Three years ago, while lifting a heavy weight, he had suffered with pain in the right hypochondriac region. This had been followed by anæmia and deterioration of the general health, and this had been his condition on first coming under observation. The patient had given no evidence of malarial disease. The anæmia had been relieved by appropriate treatment, and he had returned to his work. The diagnosis seemed to lie between a hydatid cyst of the liver and distention of the gall bladder from occlusion of the cystic duct.

Dr. Joseph D. Bryant said that from the brief examination he had been able to make he was not inclined to regard the tumor as due to a distended gall bladder. If it was an enlargement of the gall bladder, one would expect the upper end of the tumor to be opposite the costal cartilage of the ninth rib, whereas it was much nearer to the costal cartilage of the eighth rib. If the tumor was a gall bladder it should descend markedly on inspiration, and move freely to either side, and one would expect a history of accumulation of fluid, or of gallstones, or of inflammation of the gall bladder. Moreover, the tumor had not been tender, and had, according to the history, grown rather rapidly and without inflammatory action. If it was a cyst connected with the liver, it should descend more markedly and the base should be upward, which was not the case. On turning the patient on his abdomen, he had been surprised to find that the tumor became freely movable. He was disposed to regard it as a cyst, probably connected with the liver or head of the pancreas.

Dr. Alexander Lambert said that while the liver descended on inspiration, the tumor varied hardly at all in position, and its free mobility made him think that it was connected with some portion of the peritonæum. He would only venture the opinion that it was a hydatid cyst of the peritoneal cavity.

Cases of Ophthalmia treated with Argonin.—Dr. Horace Bigelow reported some cases of this kind. He said that his cases had not done well under the usual methods of treatment—*e. g.*, cold applications and the use of nitrate of silver. The former was disagreeable to the patient, and required the constant care of a nurse. The second method was painful and tedious. For some months past, in the children's ward of Bellevue Hospital, he had been using argonin, a plan of treatment that had been introduced there by Dr. E. L. Dow. Thirteen cases of purulent ophthalmia in infants had been so treated. Three of these, developing in foundlings in the wards, had been treated in this way from the earliest time of the inflammation, and had been cured in seven days. In the other cases, the average duration had been thirteen days. The first case subjected to the treatment had previously resisted the usual methods, but had quickly improved under the use of argonin. A carefully prepared three-per-cent. solution of argonin had been used. A minim dropper having been inserted deep under the eyelid, enough of the solution should be instilled to thoroughly irrigate the eyelids twice and, later, once in the twenty-four hours. Between these applications the lids were kept constantly clean with boric-acid solution. Fifteen grains of argonin contained as much silver as a grain of the silver nitrate. It was a white, amorphous powder, easily soluble in warm water. It was not irritating, and it formed no slough on contact with the mucous membrane, and, therefore, no neutralizing agent was required after its use. From his experience with argonin in these cases, Dr. Bigelow had concluded that it was a very valuable agent in the treatment of purulent ophthalmia, because of its mild but thorough and rapid curative action.

Dr. Kalish said that it was customary to distinguish two types of ophthalmia neonatorum. There was a mild form which under ordinarily good care ended in recovery. This type until recently had been considered as not being associated with a special micro-organism.

The severe form was the dangerous variety, and was furnished with a special micro-organism, the gonococcus. In his service at the City Hospital there had been times when a long series of cases would prove amenable to treatment, while at other times the reverse would be noted. In this latter class the presence of the gonococcus was demonstrated by the culture test and Gram's method. He had used argonin in too small a number of cases to form an opinion, but a colleague had used it in a dispensary service, and abandoned its use because it seemed to him that the treatment with argonin was tedious and unsatisfactory. He was aware that comparison of the results obtained from treatment in hospitals with those in dispensaries would probably be unjust, since the unremitting care by trained nurses added a most important factor to any plan of treatment. In the City Hospital it was the invariable custom to detail a nurse for constant attendance in each case, and this unceasing care was largely responsible for the good results obtained. The chief damage to the eye arose from erosion of the cornea by the presence and contact of the acrid discharge, or from the swollen ring of ocular conjunctiva pressing upon the eyeball and shutting off the nutrient supply to the cornea. It was impossible in the majority of these cases to use nitrate of silver in the stage in which this ring or fold was found, as both the palpebral and ocular conjunctiva were dry and brawny, and early application of silver would aggravate the condition and perhaps destroy the eye. If argonin could be used in this stage, it would be a distinct advance in treatment. In gonorrhœal ophthalmia occurring in the adult, argonin had not been found so beneficial as the silver-nitrate treatment usually employed. He would like to ask Dr. Bigelow if the presence of the gonococcus had been determined in all the cases reported.

Dr. H. H. Seabrook said that he did not remember having seen for some years past a case of ophthalmia neonatorum, with or without the gonococcus, in which the eye had been lost when the treatment with silver had been properly carried out. Some physicians had come to use weak solutions of silver—even one per cent. Ten grains to the ounce was strong enough for any case. The nitrate of silver caused a rapid exfoliation of the superficial cells. Such a solution was astringent and antiseptic. Perhaps the most important element in the treatment was constant cleanliness, which could be effected by a 1-to-10,000 solution of mercury bichloride, used two or three times a day, and for the rest of the time a solution of boric acid. Even after the disease had somewhat subsided—a week or ten days—he had, in former times, seen the cornea lost, because solutions of silver would set up circumcorneal swelling; hence his practice was to use ice cloths for at least an hour after the application of silver, after their constant use had been stopped. Dr. Wilson, of Bridgeport, had stated several years ago that in gonorrhœal ophthalmia he had found great benefit from the use of vaseline introduced into the eye. Whatever might be its action, it was unquestionably most beneficial. One effect of the nitrate of silver was to excite the secretion of tears, and this in itself would wash away more or less of the secretion.

Dr. Bigelow said that the gonococci had been isolated in some, but not in all, of the cases. It was because the treatment had proved so eminently successful in those cases in which the presence of the gonococci had been demonstrated that he had thought the series worth reporting. The other cases had done fully as well under the argonin, and the diminished irritation and danger were the chief advantages of the argonin treatment.

Report on Lumbar Puncture in Cases of Alcoholic "Wet Brain."—Dr. Charles L. Dana reported the following case: A man, forty-one years of age, had been brought to the "cells" on the last day of September. He had been a hard drinker nearly all his life, and had had syphilis ten years before. He was suffering from acute serous meningitis, or "wet brain." He was semiconscious and in a state of muttering delirium. There were some tremor of the hands and tongue, general hyperæsthesia of the skin, slight retraction of the abdomen, coldness of the extremities, and involuntary evacuation of the bowels. On the second day the symptoms were somewhat more severe, and his temperature was 101° F. There were slight stiffness of the neck and some congestion of the conjunctiva. Dr. Dana said that he had first seen him on that day, and had looked upon the case as a rather typical one of "wet brain." On puncturing the spinal canal he had drawn off a few drachms of fluid, and this had resulted in slight, transient improvement. The next day the man was much more stupid and rigid; the retraction of the abdomen had been increased, there was considerable rigidity of the neck, and the urine and fæces were involuntarily evacuated. His condition remained about the same until the fourteenth day after his admission. During this time the temperature had risen at times to 104° F. in the evening, but was usually about 101° in the morning. He had also had some hallucinations of sight and hearing. On the fourteenth day nearly two ounces of fluid were withdrawn by lumbar puncture. The improvement had been quite marked for the next few hours, and the temperature did not rise after that. The hyperæsthesia had diminished, the mind had become clearer, and on the twenty-fourth day the patient had been practically well. Examination of the fluid removed had shown that it had a specific gravity of 1.020 and an alkaline reaction, and contained a trace of albumin. Microscopical examination had shown uricacid crystals, a number of round cells, with one or two nuclei, and some highly refractive substances collected together in small and more or less granular masses.

Dr. Dana said that this was the third of about fifteen cases of lumbar puncture in which the patients had recovered; in the other cases they had been practically moribund when operated upon. Two or three years ago he had tapped in this way in a case which had been diagnosticated as tuberculous meningitis. The procedure had been followed by an improvement in the general condition, and the patient had eventually recovered. It was, of course, possible that this was not a case of tuberculous meningitis, but it certainly had presented the clinical symptoms of the disease.

The condition "wet brain," the speaker said, was a form of serous meningitis, in his opinion, the process really being an inflammatory one. The cells of the brain underwent a rapid degeneration from the poisons brought to them in the blood; as a result, there was a tremendous outflow of serum from the circulatory fluid. This he believed to be a reaction of the organism to the products of the cell's decay, the effusion being intended to dissolve and remove the poisonous matter. This process was thus comparable to the leucocytosis and lymph exudate in an ordinary vascular inflammation. As this serous fluid absorbed the poison, if we could remove this fluid it was reasonable to suppose that we should secure a quicker return to health—indeed, this was a familiar clinical experience in the treatment of pleuritic effusion.

In performing lumbar puncture the patient was laid upon the left side, with the trunk flexed a little, and a needle, about three inches and a half long (a veterinary hypodermic needle) was inserted between the second and third lumbar vertebræ. In children it could be inserted in the median line, but in adults it must be introduced half an inch to one side, and it must be directed slightly upward as well as inward. In his experience the puncture had proved absolutely harmless. In some cases he had removed nearly two ounces of fluid, but he did not think it was safe to exceed this quantity at any one time.

Dr. Edward D. Fisher asked Dr. Dana whether he regarded the symptoms as due to increase in the cerebrospinal fluid in these cases or to the toxic condition of the cerebro-spinal fluid. If they were due to pressure, the fact that this fluid was known to increase so rapidly would make it seem improbable that puncture could have much effect. He would also like to know if the cerebro-spinal fluid had been injected into animals to determine its toxic nature.

Dr. Daly said that three months before he had done a lumbar puncture, and the fluid so removed had been injected into rabbits, but with a negative result. He had aspirated in a number of these cases of "wet brain," usually at a late stage, but always with temporary improvement.

Dr. Dana said that some relief was obtained by removing the pressure, but he did not expect benefit from this. If the procedure was of any value, it was apparently by its removal of the peccant matter. Sometimes as the puncture was made the fluid spurted out with force, but in ordinary cases it escaped drop by drop. The treatment to be of any value must be employed earlier and oftener.

Pure Infection with the Bacillus Aerogenes Capsulatus.—Dr. John F. Erdmann presented a boy showing the result of an amputation of the shoulder in a case of pure infection with the *Bacillus aerogenes capsulatus.* The child had sustained a compound fracture of both bones of the forearm on a Tuesday morning, and had had a chill on Wednesday night, at six o'clock. When he had seen the case on Thursday night, at nine o'clock, the boy was in a condition of profound coma; and there was crepitating gangrene up to the middle third of the arm, with crepitation along the inner aspect of the axilla and around the scapula. He performed a circular amputation of the shoulder as rapidly as possible, subcutaneous injection of salt solution being given, and kept the flaps covered with gauze thoroughly saturated with this solution. By eleven o'clock the following morning his delirium had subsided, and he was as bright as though he had had no such serious condition twelve hours previously.

Gunshot Wound of the Brain.—Dr. GEORGE D. STEWART reported such a case, in which he had followed a line of treatment suggested by Dr. Bryant. The patient, a man, thirty-nine years of age, had been admitted to the hospital on the morning of May 24th, after having shot himself in the right temporal region with a .22-calibre pistol. Examination showed a small penetrating wound, with powder stains close around its margin, and a little blood oozing from the wound. There was no wound of exit. The patient was rational, and showed no signs of paralysis. The reflexes were normal, and the pupils, though slightly and equally contracted, reacted to both light and accommodation. He was operated upon that afternoon through a tongue-shaped incision surrounding the wound. Exposure of the osseous wound, which was much larger than that in the soft tissues, revealed small fragments of bone broken from the inner table. These were removed, and the opening in the bone, which was half an inch above the external angular process and three fourths of an inch behind the temporal ridge, was enlarged, disclosing a small jagged wound of the dura, from which escaped a few long and slender blood-clots and a little cerebral tissue. With the patient's head on the opposite side, Fluhrer's probe was introduced, and it was found to pass almost transversely, without force, other than its weight, to a depth of three inches and seven eighths, and then to impinge on the bullet. Dr. Girdner's telephonic probe verified the position of the bullet. As the whole transverse diameter was only four inches and a half, it was decided that a counter-trephining would furnish the best drainage and the shortest route to the bullet. Fluhrer's probe, with a piece of silken string attached, was therefore passed to the bottom of the wound, and then this string was carried across the head at varying angles, keeping it parallel with the external portion of the probe, like the meridian lines of a globe. Where these lines intersected, on the opposite side of the cranium, an opening was made with a half-inch trephine. The localization was so exact by this device that no enlargement of the opening was needed. The probe was then made to emerge at the counter-opening, and the bullet, which was about half an inch below the surface, was easily removed with thumb forceps. This counter-opening was an inch above the left external angular process, and a fourth of an inch below the temporal ridge. Twenty strands of horsehair were carried through the frontal lobes directly, and the wounds were sutured on either side around the horsehair. On May 26th the wound was dressed. It was noted that at times the patient was quite noisy. On May 28th it was again dressed and the wound found to be healthy, but the patient was still restless. Two days later about half of the horsehair was removed, and in two days more most of the remainder. The patient was becoming more and more delirious and the temperature was about 101° F. On June 3d all drainage was removed. On June 4th the flap around the wound of entrance was opened and considerable inflammation found, with a fungous growth of cerebral tissue. Three days later the patient died.

Dr. STEWART, in commenting upon the case, said that ten years ago Dr. Bryant had written on this question of removing the bullet when it could be easily reached and had reported a hundred and forty cases. The percentage of recoveries in favor of removing the bullet was thirteen. He had also quoted three hundred and sixteen cases, with a percentage of seventeen in favor of interference.

Dr. L. W. HOTCHKISS asked what had been the source of infection in the case just reported.

Dr. STEWART answered that it probably came from the wound of entrance. In another case he would not attempt to close the wound of entrance so completely, but would use iodoform gauze in the entrance wound as well as through-and-through horsehair drainage.

(To be concluded.)

Book Notices.

A System of Practical Medicine. By American Authors. Edited by ALFRED LEE LOOMIS, M. D., LL. D., Late Professor of Pathology and Practical Medicine in the New York University, and WILLIAM GILMAN THOMPSON, M. D., Professor of Medicine in the New York University, etc. Volume III. Diseases of the Alimentary Canal—Diseases of the Peritonæum—Diseases of the Liver and Gall Bladder—Diseases of the Spleen—Diseases of the Pancreas—Diseases of the Thyreoid Gland—Chronic Metal Poisoning; Alcoholism; Morphinism, etc. Illustrated. New York and Philadelphia: Lea Brothers & Co., 1898. Pp. 5 to 926.

THE third volume of this very excellent system opens with the consideration of the disorders of the alimentary canal, and so great is the merit throughout this portion of the work that comment upon its separate parts becomes almost impossible. An even quality of unusual degree characterizes what is given us, which is as gratifying as it is uncommon in works of this sort. One matter, however, may properly be cited, and that is the stress laid upon chronic intestinal indigestion. That "chronic intestinal indigestion has never received the attention that it deserves; it is seldom even mentioned in standard works on the practice of medicine," is true beyond question, and the insistence upon the importance and the frequency of this disorder has our cordial indorsement and the presentation of the subject our approval. In one respect we are inclined to differ with the author when he says "there are other symptoms found in connection with intestinal indigestion which are due to an associated neurasthenia. These are wrongly regarded as caused by the indigestion, and therapeutic measures based upon this view invariably fail of success." To our mind, both theory and practice point strongly to the correctness of an opposite view in a large number of cases, and, while we are not of the extremists who would make neurasthenia essentially an intestinal disease, we believe firmly that self-intoxication in cases of intestinal indigestion is very often the cause of the nervous symptoms observed, even if the influence of toxic products "has been overestimated." Certainly, treatment directed against the indigestion is often productive of relief or cure of the neurasthenia; at least, such has been our experience and such is our belief. As a conclusion to the discussion of alimentary diseases there is a chapter upon food poisoning which for ability and non-diffuse sufficiency should be highly commended.

The diseases of the peritonæum are next presented, and then those of the liver and gall bladder. The chapters upon hepatic and biliary diseases can not but excite our admiration, for they are of the sort which medical men will appreciate, clear, succinct, and complete without wordiness. A brief though not insufficient chapter discusses the diseases of the spleen, and this is followed by one upon the diseases of the pancreas. Following this are the chapters upon thyreoid diseases and upon cretinism and myxœdema, which are admirable productions, the illustrations of the latter chapter being features especially worthy of mention. Chronic metal poisoning, alcoholism, and morphinism come next, and then those infectious diseases common to man and animals, glanders, anthrax, rabies, and actinomycosis. The volume is closed by the discussion of miscellaneous subjects, and the reader will find much to interest and benefit him in the chapters upon purpura, beri-beri, hæmophilia, filariasis, diabetes, glycosuria, and insolation. We rate this volume as the most satisfactory of the system, a comparison, however, which can in no way belittle our appreciation of its predecessors, for that has already been warmly expressed. Indeed, the work throughout is creditable to all who have been concerned in its production.

An Epitome of the History of Medicine. By Roswell Park, A. M., M. D., Professor of Surgery in the Medical Department of the University of Buffalo, etc. Based upon a Course of Lectures delivered in the University of Buffalo. Illustrated with Portraits and other Engravings. Philadelphia, New York, and Chicago: The F. A. Davis Company, 1897. Pp. xiv–348. [Price, $2.]

The first words of preface to this volume contain a reproach to us all and one which is eminently deserved. "The history of medicine," says the author, "has been sadly neglected in our medical schools. The valuable and fruitful lessons which it tells of *what not to do* have been completely disregarded, and in consequence the same gross errors have over and over been repeated." That such a condition has existed and still exists admits of no justification, although it is equally true that there is extenuation for it. Medical students and medical men are as a rule overworked. Apart from what may to either be matters of individual interest, there is at this day the constant necessity of scientific progress, without which the medical individual may not hope to hold his place long. Under these circumstances, which constitute as it were a "pace," it is no wonder that medical workers have come to think of their calling as a science only, forgetting that it should also be an art, and forgetting almost that it ever had a history. This is lamentable, as we have often said, but, unfortunately, it would seem to be practically unavoidable. With us of America the reproach is even more deserved than with others, for it is the national temper to progress feverishly, and what we are pleased to regard as unessential we straightway disregard. It is no wonder, then, that medical history has been neglected, for it discovers no new remedies and in one way a knowledge of it contributes little to success. In another way, however, this disregard is more than unfortunate, for it contributes much to that narrowness with which we are sometimes reproached and which we can not always deny. Active medical men are seldom informed upon matters of medical history, and when mature years have been reached and he has available time the physician begins to broaden and by reading to inform himself upon the history of his calling, the time when his benefit from so doing would have been the greatest has long been passed. There seems to have been a tardy realization of these things, for now medical histories and medical biographies are appearing with considerable frequency. It is well that it is so, for, even if medical schools fail to provide instruction upon medical history, the individual can now blame nobody but himself if he remains ignorant concerning it.

We shall have occasion to speak of a number of these works before long, but now our attention is called in particular to one in which the entire subject of medical history is presented, and we feel a sense of obligation to the author for having provided us with a work so comprehensive and so well arranged. The task of compiling a work like this is no small one, and when condensation must be added the labor is greater still. This condensation is in a way unfortunate, for it detracts from the literary merit of the book, and, while one reads it always with interest, it is not always with pleasure. No minute criticism can be given of such a work as this, and indeed it is not called for; suffice it to say that the usual historical methods are here successfully employed, although the division of the subject into eras or ages of "foundation," "transition," and "renovation," while justified and authorized by example, is not altogether to our liking. To the work proper are added several chapters of particular interest, one, which is too brief, on the history of medicine in America, one on the history of anæsthesia, and one on that of antisepsis. An epitome of the history of dentistry concludes the volume.

Much value and interest are added to the work by the illustrations it contains. These include many portraits as well as copies of old illustrations depicting the quaint surgical instruments and operations of olden times. The book is one which has long been needed, for it renders available in moderate bulk what heretofore has been none too easy of access. It is a work which no medical library of any pretension to adequacy should lack.

A Clinical Text-book of Surgical Diagnosis and Treatment for Practitioners and Students of Surgery and Medicine. By J. W. Macdonald, M. D., Professor of the Practice of Surgery and of Clinical Surgery in Hamline University, Minneapolis, etc. With Three Hundred and Twenty-eight Illustrations. Philadelphia: W. B. Saunders, 1898. Pp. 7 to 798. [Price, $5.]

The volume opens with an excellent chapter on the examination of the patient and the methods to be employed in taking the history of a case, with many original suggestions on the points so often overlooked by beginners. The chapter on fractures is far better than that in many a more pretentious work; it is clear and practical, and contains much that will be useful to the student. In the care of fractures in and about the elbow joint the very valuable suggestion of putting the arm up in extension for a week or so and thus preserving the carrying angle, then changing to flexion for the remainder of the time, has been omitted, an oversight one would not expect from the character of the chapter. In the treatment of Colles's fracture it seems hardly conservative to state that, once reduced, there is no danger of displacement and that splints are of little importance. The average student so instructed would probably treat his first case with considerable indifference, and perhaps learn later by a malpractice suit that some cases of Colles's fracture had a very marked and persistent tendency to recur, and that careful splinting in such patients is of the utmost importance. We are sorry to recognize so many old friends among the illustrations, but such repetitions can be better borne than a picture like the one illustrating acromegaly, which is good enough of the face, but omits the hands of the patient. The peculiar enlargement of the hands is quite as important as that of the face in making a diagnosis of the disease, and the spadelike changes in the terminal phalanges are not even mentioned in the text. Similar errors of omission are, fortunately, rare, but in many places the process of condensation is carried too far; surely the student should know of the more radical method of operating on Dupuytren's contracture by open dissection of the thickened palmar fascia and its complete removal, and should be told that the treatment of sprained ankles with adhesive plaster has not yet gone out of use. The condition found when a muscle is ruptured by some overstrain is not the condition described, but most frequently a tear in the strong fascia surrounding the muscle, and the condition resembles a hernia rather than a separation. Its treatment is correspondingly simple, suture of the torn fascial edges.

In an otherwise excellent discussion on appendicular inflammation palpation by the rectum is dismissed as of no value. To this we can not agree; not only is it at times the only method of diagnosticating an appendicular abscess low in the pelvis, but in a very septic case drainage through the rectum will give the patient a chance to rally enough to permit of laparotomy later for the removal of the diseased appendix.

Perhaps there is no operation to the final perfection of which the patient studies of pathology have contributed more than that for malignant tumors of the breast, and it is only right to the young student of surgery that he should be made acquainted with the methods and results of such pioneers as Haidenhain and Stiles. Without their guidance we should still be doing partial and incomplete amputations of the breast. The question of the magnitude of the operation and the probability of cure depends to a very great degree upon that of whether or not the pectoralis major has been invaded. If the tumor is firmly adherent to the muscle, it has in all probability invaded the posterior fascia as well as the anterior, and from this the chest wall. In other words, only a very small proportion of cures can be expected from carcinomata which adhere to the pectoralis muscle. Now, if this is the case, the simplest means for testing this point should not have been omitted from a book on diagnosis. The method is to fix the pectoralis by having the patient press the hand of the diseased side firmly against the hip; then, if the tumor is grasped and moved in the direction of the long axis of the muscle, its adherence to the fascia can easily be determined. The little lymph node just at the lower edge of the muscle, about halfway to the axilla, is sometimes of diagnostic value, as it is the first node to become infected. Any dogmatism in medicine is rather dangerous, especially when speaking of the involvement of the axillary nodes in mammary sarcoma, for they are enlarged in a considerable proportion of the cases of that disease, and also we should like to see some mention of a condition, very confusing at times, that of mammary tuberculosis. A most complete picture of carcinoma may be obtained, with enlarged nodes in the axilla and a hard irregular growth in the breast. It is a pleasure to note the statements that nearly all breast tumors are malignant and that any tumor should be removed as a prophylactic measure, for the profession at large has yet to learn that the extension of a carcinoma of the breast does not depend upon its size. Cases have been seen in which the primary growth was no larger than an olive, and yet the entire breast, the axillary nodes, and the chest wall were already infected beyond hope from interference.

A complete and careful presentation of the ordinary gynæcological conditions and methods of treatment and a short chapter on the Röntgen rays in diagnosis complete the volume.

Sinnesorgane. Zweite Abtheilung. 1. Das äussere Ohr. Von Professor Dr. G. SCHWALBE, in Strassburg. Mit 35 theilweise farbigen Abbildungen im Text. 2. Mittelohr und Labyrinth. Von Professor Dr. F. SIEBENMANN, in Basel. Mit 66 theilweise farbigen Abbildungen im Texte. Handbuch der Anatomie des Menschen. Herausgegeben von Professor Dr. KARL VON BARDELEBEN. Fünfter Band. Zweite Abtheilung. Jena: Gustav Fischer, 1898. Pp. 113 to 324.

THE ground covered in these monographs is of course familiar. Not much originality can be introduced into anatomical descriptions. Suffice it to say that the various sections have been prepared with characteristic German thoroughness and exhaustively handled. A valuable feature is the quite elaborate mass of data introduced from the standpoints of embryology and comparative anatomy. The illustrations, of which there are somewhat over a hundred, are of unusual excellence because of the judicious introduction of colors. It is needless to say that the very latest scientific knowledge is given in these pages.

Spectroscopie des organes, des tissus et des humeurs. Par A. HÉNOCQUE, Directeur-adjoint du Laboratoire de physique biologique du Collège de France. Paris: Masson et Cie., 1897. Pp. v–157. [Encyclopédie scientifique des aide-mémoire.]

THE use of the spectroscope which is of most interest to medical men—*i. e.*, the study of the absorption spectra of the blood pigments of the higher vertebrates—is not considered to any great extent in this book, the author having treated of this subject in a previous volume. Still, in the chapters on the spectroscopy of the various organs it is in reality the blood pigments which are chiefly studied, and the same is true of the section on the milk.

One chapter is devoted to a rather complete account of the occurrence and distribution of hæmoglobin and hæmatocyanin among the invertebrates.

Perhaps the most interesting parts of the book are the two chapters dealing with the bile pigments: in these a brief account is given of the experiments by which Wertheimer, by means of the spectroscope, was enabled to solve the vexed question as to whether the liver could excrete bile pigments which had been introduced into the blood.

The limited bibliography of this subject seems to be given with considerable completeness, and the value of the text is increased by a number of figures.

Ueber die funktionelle Prüfung des menschlichen Gehörorgans. Gesammelte Abhandlungen und Vorträge. Von Dr. Friedrich Bezold, Professor der Ohrenheilkunde in München. Mit 2 lithographischen Tafeln und Abbildungen im Texte. Wiesbaden: J. F. Bergmann, 1898. Pp. ix–240.

Nearly if not quite all of these contributions have been published during the course of the last eighteen years in various issues of the *Archiv für Ohrenheilkunde.* They do not, therefore, call at this time for any special comment. Such contributions from a clinician of the standing of Professor Bezold are always valuable because they are strongly tinctured with his own personal experience, even if not actually containing anything essentially new. He has had much to do with bringing otology to its present creditable position, and it is eminently proper that the contributions contained in the present volume should be rescued from the approach to oblivion which is so apt to overtake articles which appear in serial publications only.

BOOKS, ETC., RECEIVED.

Operative Gynæcology. By Howard A. Kelly, A. B., M. D., Professor of Gynæcology and Obstetrics in the Johns Hopkins University, and Gynæcologist and Obstetrician to the Johns Hopkins Hospital, Baltimore, etc. With Twenty-four Plates and over Five Hundred and Fifty Original Illustrations. Vol. I. New York: D. Appleton and Company, 1898. Pp. xvi–563. (Sold by subscription.)

Text-book of Physiology. Edited by E. A. Schafer, LL. D., F. R. S., Jodrell Professor of Physiology, University College, London. Volume First. Edinburgh and London: Young J. Pentland. New York: The Macmillan Company, 1898. Pp. xviii–1036. [Price, $8.]

Diseases of Women. A Clinical Guide to their Diagnosis and Treatment. By George Ernest Herman, M. B. Lond., F. R. C. P., Obstetric Physician to and Lecturer on Midwifery at the London Hospital, etc. With Two Hundred and Fifty-two Illustrations. New York: William Wood and Company, 1898. Pp. xvi–886. [Price, $5.]

The Surgical Complications and Sequels of Typhoid Fever. By William W. Keen, M. D., LL. D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia, etc. Based upon Tables of Seventeen Hundred Cases compiled by the Author and by Thompson S. Westcott, M. D., Instructor in Diseases of Children, University of Pennsylvania, etc. With a Chapter on the Ocular Complications of Typhoid Fever. By George E. de Schweinitz, A. M., M. D., Professor of Ophthalmology, Jefferson Medical College, etc., and as an Appendix the Toner Lecture, No. V. Philadelphia: W. B. Saunders, 1898. Pp. 8 to 386. [Price, $3.]

A Compendium of Insanity. By John B. Chapin, M. D., LL. D., Physician in Chief, Pennsylvania Hospital for the Insane, etc. Illustrated. Philadelphia: W. B. Saunders, 1898. Pp. xvi–17 to 234. [Price, $1.25.]

Atlas of Methods of Clinical Investigation, with an Epitome of Clinical Diagnosis and of Special Pathology and Treatment of Internal Diseases. By Dr. Christfried Jakob, formerly First Assistant in the Medical Clinic at Erlangen. Authorized Translation from the German. Edited by Augustus A. Eshner, M. D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc. With One Hundred and Eighty-two Colored Illustrations upon Sixty-eight Plates, and Sixty-four Illustrations in the Text. Philadelphia: W. B. Saunders, 1898. Pp. 259. [Price, $3.]

Doctor and Patient: Hints to Both. By Dr. Robert Gersuny, Director and Principal Visiting Surgeon of the Rudolfinerhaus, Vienna. Translated, with the Permission of the Author, by A. S. Levetus, with a Preface by D. J. Leech, M. D., F. R. C. P., Professor of Pharmacology in the Owens College and Victoria University. Bristol: John Wright & Company. London: Simpkin, Marshall, Hamilton, Kent, & Co., Ltd., 1898. Pp. 5 to 79.

Hospital Formulary of the Department of Public Charities of the City of New York (Boroughs of Manhattan and Bronx). Fifth Edition, revised. New York, 1898. Pp. 95.

The One Hundred and Eighth Annual Report of the Board of Trustees of the New York Dispensary for the Year 1897.

Reports of the Trustees and Superintendent of the Butler Hospital for the Insane presented to the Corporation at its Fifty-fourth Annual Meeting, January 26, 1898.

Pharyngitis Herpetica associated with Menstruation. By Lewis S. Somers, M. D., of Philadelphia. [Reprinted from the *Philadelphia Medical Journal.*]

Amblyopia from Suppression, Congenital Imperfection, or Disuse; Which or All? By Leartus Connor, M. D., of Detroit. [Reprinted from the *Journal of the American Medical Association.*]

The Nervous System and its Diseases. A Practical Treatise on Neurology for the Use of Physicians and Students. By Charles K. Mills, M. D., Professor of Mental Diseases and of Medical Jurisprudence in the University of Pennsylvania, etc. Diseases of the Brain and Cranial Nerves, with a General Introduction of the Study and Treatment of Nervous Diseases. With Four Hundred and Fifty-nine Illustrations. Philadelphia: J. B. Lippincott Company, 1898. Pp. xxx–1056.

Selected Essays and Monographs. Translations and Reprints from Various Sources. London: The New Sydenham Society, 1897. Pp. 3 to 436.

Prize Essays on Leprosy. By J. Ashburton Thompson, M. D., D. P. H., and James Cantlie, M. A., M. B., F. R. C. S. London: The New Sydenham Society, 1897. Pp. 3 to 413.

The Year-book of Treatment for 1898. A Critical Review for Practitioners of Medicine and Surgery. By Various Contributors. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. viii–484.

The X Rays. Their Production and Application. By Frederick Strange Kolle, M. D., Radiographer to the Methodist Episcopal Hospital, etc. New York: J. S. Ogilvie Publishing Company, 1898. Pp. viii–11 to 191.

Introduction to Clinical Methods of Clinical Diagnosis. By Dr. H. Tappeiner, Professor of Pharmacology and Principal of the Pharmacological Institute of the University of Munich. Translated from the Sixth German Edition, with an Appendix on Micro-biological Methods of Diagnosis by Edmond J. McWeeney, M. A., M. D. (Royal Univ. of Ireland), L. R. C. P. I., Professor of Pathology and Bacteriology, C. U. Medical

School, etc. London, New York, and Bombay: Longmans, Green, & Co., 1898. Pp. xvi–152.

The Health Resorts of Europe. A Medical Guide to the Mineral Springs, Climatic Mountain and Seaside Health Resorts, Milk, Whey, Grape, Earth, Mud, Sand, and Air Cures of Europe. By Thomas Linn, M. D., of Nice and Paris, Doctor of Medicine, Faculty of Paris, etc. Fifth Edition. London: Henry Kimpton and Hirschfeld Bros. New York: Hirschfeld Bros., 1898. Pp. 328.

Therapeutisches Vademecum der Haut- und Geschlechtskrankheiten für practische Aerzte. Von Dr. Reinhold Ledermann, Spezialarzt für Hautkrankheiten in Berlin. Berlin: W. Oscar Coblentz, 1898. Pp. 159.

Report presented to the Thirty-ninth Annual Meeting of the New Sydenham Society, held in London, July 27, 1897.

Twenty-seventh Annual Report of St. Catherine's Hospital, Brooklyn, N. Y. For the Year 1897.

Diet in the Chronic Catarrhs of the Gastro-intestinal Tract. By Boardman Reed, M. D., of Philadelphia. [Reprinted from the *Journal of the American Medical Association.*]

A Plea for the more Frequent Resort to Analysis of the Stomach Contents for Diagnostic Purposes. By Boardman Reed, M. D. [Reprinted from the *Philadelphia Medical Journal.*]

Implantation of a Glass Ball for the Support of an Artificial Eye, and Mules's Operation for the Substitution of Enucleation of an Eyeball. By L. Webster Fox, M. D., of Philadelphia. [Reprinted from the *Journal of the American Medical Association.*]

Ophthalmia Neonatorum. By L. Webster Fox, M. D. [Reprinted from the *Medical Bulletin.*]

Typhoid Fever. By John Eliot Woodbridge, M. D., of Cleveland. [Reprinted from the *Transactions of the Ohio State Medical Society.*]

The Climate of Atlantic City and its Usefulness in Disease. By William Edgar Darnall, M. D., of Atlantic City, N. J. [Reprinted from the *Therapeutic Gazette.*]

Cyclopathy. By William Edgar Darnall, M. D. [Reprinted from the *Medical Brief.*]

Vaginal Hysterectomy by the Clamp Method. By B. Sherwood Dunn, M. D., of Boston. [Reprinted from the *American Journal of Obstetrics and Diseases of Women and Children.*]

Experiences with Retained Intubation Tubes and Antistreptococcic Serum. By Rosa Engelmann, M. D., of Chicago. [Reprinted from the *Medical News.*]

A Plea for the Radical Treatment of Hay Fever. By Charles E. Clark, M. D., of Kansas City. Read before the Jackson County Medical Society, December 9, 1897.

In Memoriam. Ernest Hart, M. R. C. S., D. C. L. For over Thirty Years Editor of the *British Medical Journal.* Born, June, 1835. Died, January, 1898. [Reprinted from the *British Medical Journal* and from the *Jewish Chronicle.*]

Remarks on Spinal Irritation. By Hugh T. Patrick, M. D., of Chicago. [Reprinted from *Medicine.*]

A Case of Syringomyelia with Trunk Anæsthesia. By Hugh T. Patrick, M. D. [Reprinted from the *Journal of Nervous and Mental Disease.*]

Neurology in Relation to General Medicine. By Hugh T. Patrick, M. D. [Reprinted from the *Chicago Medical Recorder.*]

New Ophthalmic Operating Table. By L. Webster Fox, M. D. [Reprinted from the *Archives of Ophthalmology.*]

Miscellany.

Latent Dyspepsia.—M. Albert Robin, says the *Progrès médical* for March 19th, is making a study of the different forms of dyspepsia and their treatment, and is interested in the relations which may exist between digestive troubles and cutaneous affections. Occasionally the digestive troubles presented by patients are latent, and the following case is cited by M. Robin as a good example of this: The patient, a man seventy-five years old, was a mason and had always had good health. He entered the hospital to be treated for psoriasis. His general health was very good at the time, and he did not complain of digestive troubles. In order to test the man's condition, M. Robin prepared a meal for him, and the analysis of the gastric juice did not reveal hydrochloric acid, free or combined, organic acids, propeptones, or peptones, but only a rather large quantity of mucin. Repeated examinations gave the same result.

M. Robin concluded from this that latent dyspepsia existed. The stomach had ceased to exercise its functions, and if the digestive functions did not appear to be suppressed, it was because the intestine had completely taken the place of the stomach.

This replacement by the intestine is well established at the present time. If the stomach is not indispensable, it must not be concluded from that that latent dyspepsia is without inconveniences. If the intestine, under an influence of even slight importance, becomes disturbed in its functions, symptoms of dyspepsia appear and become predominant.

Constipation is the intestinal symptom which most frequently reveals latent dyspepsia. This symptom is the first to be combated, and the following therapeutic measures should be employed: 1. Purgatives, among which M. Robin prefers drastics in weak doses, as they are not followed in their action, like the saline purgatives, by an exaggeration of the constipation, which requires their continual employment. 2. Massage of the large intestine, which should be done methodically and gently. 3. Mineral waters, such as Châtelguyon, Brides, and Aulus in France, and Kissengen and Carlsbad in other countries.

In the case mentioned M. Robin ascertained further the presence of albumin in the urine. This dyspeptic albuminuria is very frequent; dyspeptic diabetes also exists. These symptoms, which are not well known, are not amenable to the ordinary treatment of albuminuria and diabetes.

The Proper Function of a Government in Regard to the Commercial Aspects of Antitoxines.—In our opinion, says the *American Medico-surgical Bulletin* for March 25th, whatever may be the case in some future time when a millennial socialism shall reign supreme among a race that has been freed from all selfishness and self-seeking in the individual—at present it is not expedient for any commonwealth to enter upon the business of the manufacturer; while, on the other hand, it is the duty of the commonwealth to protect its citizens from imposition and cheating at the hands of the manufacturers. The essential duty of the commonwealth is protection of its citizens against robbery and fraud of all kinds; and this duty is just as plainly applicable to the producer who would label his oleomargarin "butter," as it is to the burglar who would steal by force what the other man wishes to take by fraud. A department of public safety, under some name or other, ought to deal with each case. Then again, it is right for a commonwealth to protect its citizens against influences not of the nature of fraud, which act upon all members alike of the commonwealth, and which can only be prevented by united action: Hence there should be a department of hygiene or public health, the title of which is a matter of little importance. The results of the application of these principles to the bacteriological problem are very evident.

Many years ago, the great lexicographer, Dr. Johnson, defined "drug" to be an "ingredient used in physick," and certainly antitoxine comes within the range of such definition. There is plainly no more justification of the official or governmental manufacture of antitoxine than there is of the official manufacture of morphine, quinine, or other medicaments. On the other hand, it is the bounden duty of a government to see that when a grocer sells sugar, sugar and not sand is sold; and that the apothecary's morphine is pure, and that the antitoxine in the market is what it claims to be. It is indeed asserted that when New York city began the making of antitoxine, which it is proposed to abolish, antitoxine was selling for twelve dollars, but in consequence of the productiveness of the health board it is now sold for a dollar and a half. Possibly the manufacture of cloth by New York city would reduce its price, but that would be no reason for the city opening cloth-mills. Moreover, it would be very difficult to prove that the fall in the price of antitoxine was really in consequence of the health-board production, and that if the matter had been left under proper supervision to commercial laws it would not have worked out as well. It is possible, however, that good may have resulted from the city in an emergency entering upon the production of antitoxine, but assuredly at the present the matter can be left to the manufacturers, properly supervised.

The question as to whether the city ought or ought not to maintain laboratories for the purpose of bacterial diagnosis is not quite so easily answered; certainly, however, such laboratories can not be considered in any sense of the term "manufacturing" establishments, but may be by the use of a little adroit force pushed into the catalogue of protective measures. They are especially justified by the consideration that the existence of private laboratories for doing the work would require so much and so constant supervision by the government to see that the work was accurately done, that it is cheaper for the commonwealth to do the work itself than to watch its being done by others. This is especially the case since the official biological laboratory must be maintained for the purpose of testing the antitoxines upon the market.

Research work is done for the general good of the community; it is work which has no direct especial relation to any one member of the community, which when carried out in the proper spirit has no commercial intent or aspect, and which therefore should be fostered and paid for by the commonwealth. European kingly government perceives this truth: is it not possible that the time may come when through general education and enlightenment Demos may also apprehend it?

Orthoform in the Local Treatment of Painful Ulcerations, especially of the Upper Air-passages.—Dr. Eugene S. Yonge (*British Medical Journal*, February 5, 1898) says that this anæsthetic presents a triple claim to recognition, in that it is sparingly soluble, is nontoxic, and is powerfully antiseptic. On the other hand, it is a disadvantage that it will not act on unbroken skin or, with certain reservations, on intact mucous membrane, for its strong anæsthetic properties are only manifested where nerve-endings are exposed. The slow solubility leads the anodyne to exert its action economically on the tissues, and, unlike its rapidly soluble congener, cocaine, only sufficient is dissolved to produce and keep up local insensibility, which therefore becomes prolonged. In from five to ten minutes after its application anæsthesia of the denuded surface to both touch and pain begins, and it reaches its consummation within a short period of time. The effect lasts from a few hours to five or six days, and there is, in the majority of cases, perfect or nearly perfect analgesia, the patient experiencing the sensation of the offending part having been cicatrized over or "enameled." Suppuration is usually decidedly diminished and healing accelerated.

The action of orthoform on the unbroken mucous membrane of the mouth, naso-pharynx, and larynx is, in his experience, the following: "Neither the free orthoform (basis powder) nor the hydrochloride anæsthetizes sufficiently to allow of surgical action. When it is applied to the tongue, to the inner surface of the cheek, or to the pharynx, a numb sensation supervenes in the course of about five minutes, but there is little real anæsthesia. The effect on the larynx is to reduce reflex irritability. A peculiar feeling described as similar to that produced by cocaine is experienced in five minutes; in a few minutes more this relative loss of sensation vanishes, but if before its subsidence a probe is introduced and the vocal cords and interior of the larynx are touched, although a species of "gagging" ensues, there is no laryngeal spasm or cough. In the same patient a similar procedure without the previous introduction of orthoform causes intense discomfort and a fit of coughing. The intact nasal mucous membrane is also slightly amenable to the influence of the drug. A feeling of numbness is shown in about two minutes, and this merges into real anæsthesia, which, however, is feeble and transient. The author then gives brief histories of a number of cases in which he has used orthoform.

Toxic effects, he says, were not noted in any of the cases, but there was occasionally some slight burning for a few minutes after the application of the hydrochloride. This failure to discover toxicity is compatible with the statement that over twelve drachms have been sprinkled on a broken surface in the course of the week, also that from thirty to sixty grains have been administered to rabbits, and from forty-five to ninety grains to dogs, without evil effects during life or the post-mortem discovery of visceral changes. Orthoform fails to produce any results on an ulcer unless the dual precaution is taken to apply the drug directly to the ulcerated surface and to insure its retention there.

No relief was experienced by patients suffering from either catarrhal pharyngitis or quinsy.

The antiseptic action of orthoform, says the author, appears to be demonstrated by the rapid diminution of purulent exudation in several of the cases encountered and the speedy healing of the ulcer. In a case of acute gonorrhœa injections of orthoform solutions were followed by the disappearance of gonococci in four days and the complete cessation of blennorrhagia.

If further observations confirm the results already published, says Dr. Yonge, it would appear that orthoform is entitled to take a position in the gamut of local anæsthetics applicable to the upper air-passages. It seems probable that it will replace—by virtue of its insolubility and innocuousness—its relative, cocaine, when long anæsthesia on ulcerated surfaces is wished for.

Abscess of the Brain in Infants.—In our last issue we gave the substance of the first portion of Dr. L. Emmett Holt's article on this subject, published in the February number of the *Archives of Pædiatrics*. The conclusion, which appears in the March number of that journal, is substantially as follows:

Ætiology.—Of the thirty-two cases, thirteen were in children under one year of age, nine of these being under six months and five under three months; three occurred during the second year, and five each in the third, fourth, and sixth years, no case being included in which the patient was five years old or over.

Of the thirteen first-year cases, two were distinctly traumatic and one was probably so; one was positively an ear case and four others were probably so; one complicated pyæmia, and one spina bifida, and in three the origin was uncertain. Of the cases in children over a year old, ten were positively sequelæ of otitis; seven were positively traumatic, and one was doubtfully so; one was secondary to necrosis of the skull. The two most important factors in the ætiology of cerebral abscess in young children, as at all ages, are, therefore, otitis and traumatism.

In three of the cases no discharge from the ear had preceded the cerebral symptoms; however, in one there was an ear discharge during the course of the brain abscess, and in two others pus was found in the middle ear at autopsy although no discharge had been present during life. These last cases deserve more than passing notice; the frequency with which pus is found in the middle ear in very young children, particularly infants who have died from various forms of disease, has only recently been appreciated. Kossel (*Jahrb. f. Kinderh.*, xxxvii, 445) found it in eighty-five out of one hundred and eight consecutive cases examined; Rasch (*Jahrb. f. Kinderh.*, xxxvii, 319), in forty-five out of sixty cases; Hartmann (*Jahrb. f. Kinderh.*, xl, 285), in thirty-five out of forty-seven autopsies, in twenty-eight of which it was double. The majority of these patients were infants, and in a large percentage of them no symptoms of otitis had existed during life. In this condition, it seems to me, says Dr. Holt, is to be found an explanation of the origin, not only of brain abscess which develops without exciting cause, but also of very many of the cases of acute meningitis for which no ætiology can be found. It is highly probable that in the four cases in infants of three, five, six, and fourteen months respectively, in which no cause could be traced, light might have been thrown upon the ætiology had the middle ear been examined at the autopsy, which unfortunately is not recorded.

There were eleven cases in which an aural discharge preceded the brain symptoms, and in six of these there had been a mastoid abscess. The discharge from the ear had lasted two or three weeks in one case; from three to four months in three cases; seven months, fourteen months, and two years in one case each. In eight of the eleven cases it is positively stated that caries of the petrous bone existed, and in two others this condition seems probable from the history; in the remaining one there was a mastoid abscess. It is, therefore, the old and usually the neglected cases of otitis which are likely to be complicated by brain abscess, and nearly always it is secondary to caries of the temporal bone.

Traumatism was assigned as a cause in ten cases; in seven of these the abscess followed a wound with fracture of the skull; in three there was a history of injury but no fracture; in one of these the injury had occurred three months before the symptoms, but as pus was found in the mastoid at the autopsy, this should probably be ranked as a case due to ear disease. In seven of the traumatic cases decided cerebral symptoms developed within a week after the injury; in four of these there was fracture, and in three none. In one case the first symptoms came on at the end of two weeks; in one case at the end of four weeks, and in one case, without fracture, at the end of three months, but this was a doubtful case.

Of the remaining cases, one was due to infection of the brain, previously the seat of hydrocephalus, from a spina bifida sac, and one was due to pyæmia following omphalitis soon after birth; one was possibly pyæmic also. Necrosis of the frontal bone was responsible for one case, and, although syphilis is probable in this, the full history makes no mention of it.

The Mode of Onset.—This is of considerable interest, as it is one of the points which may be of value in diagnosis. In seven cases the onset was gradual with indefinite symptoms; in two gradual with facial paralysis; in one with hemiplegia and fever; in another with hemiplegia only, and in one with fever only, making in all eleven cases with a gradual onset. In fifteen cases the development of the cerebral symptoms was abrupt; with general convulsions in seven cases; with localized convulsions in three; with intense headache in three, vomiting in seven, and fever with vomiting and convulsions or paralysis in only three. In the remainder the mode of onset is not reported.

In three cases the disease was entirely latent, and in two others no symptoms were noticed until the last twenty-four hours, so that in five the abscess practically ran its course without symptoms. In twenty-seven cases constitutional and cerebral symptoms were present, varying much in degree and duration.

Focal Symptoms.—These depend upon the position, not the size of the abscess; they are very often wanting for the reason that parts in which the great proportion of abscesses are found (temporo-sphenoidal lobe, cerebellum, or frontal lobe) are not those which usually give rise to definite focal symptoms from any form of lesion.

In only twelve cases were there distinct focal symptoms; in seven of these there was hemiplegia, and it is interesting to note that five were traumatic cases, two being instances of very large abscesses secondary to otitis. Of the remaining five cases with focal symptoms, there was one of cerebellar abscess which presented quite typical cerebellar ataxia, but in the others they were not sufficiently definite to localize the disease.

It is of interest to group the cranial-nerve symptoms recorded and see to what degree they aided in the diagnosis. There were twenty cases in which some such symptoms were present. In three cases there was only dilatation of the pupils; in one, only contraction of the pupils; in one, only internal strabismus; in one, strabismus with dilated pupils.

Facial paralysis was observed in ten cases, but in six, as it followed old ear disease, it was probably peripheral; in four of these it was the only nerve symptom.

Anæsthesia of the face was noted in three cases.

Ptosis was noted in four cases.

External strabismus was noted but twice.

Optic-nerve atrophy was noted but once.

In going over these cranial-nerve symptoms it will be seen that in the six cases first mentioned the symptoms have no localizing value, and that in those of facial paralysis following ear disease it has none, this being in all probability peripheral, although this point is not definitely stated. Such a paralysis, in which the whole side of the face is involved, must be carefully distinguished from one in which it is of central origin, and only the lower half of the face is affected.

There are several reasons why these cranial-nerve symptoms were of so little value in the diagnosis; one was that in these patients they were often temporary and not constant, and another that they were in several instances due to meningitis and not to the cerebral abscess. It is quite probable that many focal symptoms were overlooked on account of the age of the patients and the difficulties in the way of careful examination.

It is hardly necessary to say in this connection that opisthotonus and nystagmus are not focal symptoms, and that, particularly in infants, even localized convulsions often are not so, although they may continue for a considerable time.

[After tabulating thirty-two cases with reference to the connection between the symptoms and the situation of the abscess, Dr. Holt proceeds as follows:]

General Symptoms were thus much more constant than focal ones, but hardly more definite, and frequently they bore no relation whatever to the size of the abscess; in one case of an abscess filling a large part of one hemisphere, definite symptoms were of but three days' duration, and in another case a large abscess existed without any cerebral symptoms.

Of general symptoms, records regarding temperature are most meagre; in five uncomplicated cases, in which full temperature records were kept for a long period, the temperature was normal much of the time, and in several others constant fever existed only in the terminal stage. In most of the remaining cases where the temperature is mentioned, such complications were present as to make it impossible to draw any inference.

Rigors were noted in but a single case.

Convulsions were present in twenty of the cases, usually marking the onset of the brain symptoms, or frequently the final stage.

Deep coma was rare, being noted but four times, the usual mental condition being dullness or apathy, alternating with irritability even after the development of definite cerebral symptoms.

Enlargement of the head and bulging of the anterior fontanelle were each noted in two cases.

Pain in the head was recorded six times, but in the majority it was not localized, on account of the age of the patients.

The other symptoms recorded were of most variable character and such as might be met with in any case of acute brain disease of whatever nature.

Duration of Symptoms.—In five cases the symptoms were either entirely latent or of less than twenty-four hours' duration; in the remaining cases in which the course was not influenced by an operation the symptoms lasted from one to seven days in three; from one to four weeks in five; from four to eight weeks in seven; for three months in two, for seven months in one, and a year in one. In two thirds of the non-operative cases, therefore, the duration was four weeks or less.

Progress of the Disease.—Of twenty-six cases, the course of which was not influenced by operation, there were twenty in which there were no symptoms until the terminal ones, these being of less than three weeks' duration in fifteen, and over three weeks in five cases. In four cases only was there a period of early acute symptoms following otitis or injury, and then there was an interval of latent symptoms with a terminal acute stage. In two the course was prolonged and irregular, but without any interval of cessation.

Spontaneous Opening.—In three cases a cerebral abscess is reported to have discharged during life through the ear. In two the discharge of pus was followed by great improvement in the cerebral symptoms; in the third a gush of pus took place from the ear just before death.

Diagnosis.—One has only to glance over the reports of the cases here collected, says Dr. Holt, to see how extremely difficult, in a very large number of the cases, is the diagnosis of cerebral abscess in very young children. Many of our most valuable symptoms in older patients, such as headache, tenderness of the skull, visual disturbances, deafness on one side, and various other sensory manifestations, are of no value in young children. In cases presenting only the acute terminal symptoms a diagnosis is impossible. However, with a scar on the scalp or a history of an injury by some sharp instrument, or of a mastoid abscess, or of a long-standing aural discharge, followed by hemiplegia, which develops either slowly, without fever, or more rapidly, with vomiting, fever, convulsions, and other symptoms of acute intracranial inflammation, one can be reasonably sure of the existence of a brain abscess. In the group of cases intermediate between the two just mentioned, where the previous history is uncertain or altogether wanting, where the course is prolonged and irregular, the fever absent or only slightly marked, and paralysis wanting, one must always be in great doubt, sometimes even though he has watched the case for a long time. On account of the position of most of these abscesses their symptoms are general rather than focal, and often only general brain symptoms are present, unless the motor centre of the arm or leg is invaded. Paralysis of the whole side of the face counts for nothing in the ear cases.

In little children it is with meningitis rather than tumor that abscess is usually confounded, the difficulty in diagnosis being much increased by the fact that so often meningitis is also present. It is impossible to distinguish between these two conditions in the cases of abscess where definite brain symptoms are present only for the last week or two of the disease, whether they have developed without assignable cause or have been immediately preceded by injury or by an old ear discharge. However, if there is an interval after an injury of a few days or weeks before brain symptoms begin, whether the latter come on abruptly with headache, vomiting, convulsions, and fever, or gradually with paralysis and very little fever, abscess is altogether probable. In the slower and less acute cases, the progress is apt to be more irregular than in meningitis, and if paralysis of the arm, leg, or lower half of the face is present, it is apt to be more complete and constant than in meningitis. Bulging of the fontanelle and enlargement of the head are more likely to be great in abscess than in meningitis, unless the latter is basilar, in which case it usually gives other definite symptoms. Chronic meningitis is distinguished by the absence of exciting causes such as provoke abscess, by its very slow and insidious beginning, and by its prolonged course.

To distinguish between abscess and tumor at this period of life is not usually very difficult. In tumor the cranial-nerve symptoms are more frequent and more prominent; irritative symptoms such as localized convulsions are more marked, and pressure symptoms usually less so, unless the tumor is so situated as to cause distention of the ventricles. Tumors are generally smaller than abscesses, and all focal symptoms are apt to be more definite than in abscess. Valuable assistance may sometimes be obtained by lumbar puncture. The discovery of pyogenic organisms in the fluid withdrawn makes abscess or meningitis practically certain, although it does not tell us which one. One case shows that optic-nerve atrophy can not be depended upon as a distinguishing symptom in a doubtful case, although it is much more frequent in tumor than in abscess. After all, it is the definite cause, the shorter duration, and more rapid progress which chiefly distinguish abscess from tumor, very few of the abscess cases giving symptoms for a longer time than eight weeks.

Lesions.—The abscesses in this series of cases varied greatly in size, from very small multiple ones to those containing as much as eight ounces of pus and occupying a large part of one cerebral hemisphere.

In twenty-five of the thirty-two cases the abscess was single; in three cases three abscesses were present; in one case there were many small abscesses; in three the pus was in the ventricle only.

The situation of the abscess was as follows:

Temporo-sphenoidal lobe, six cases, all secondary to otitis.

"Middle" lobe (probably temporo-sphenoidal), two cases, secondary to otitis.

Cerebellum, seven cases: four secondary to otitis; one (possibly two) traumatic; cause unknown in one.

Frontal lobe, six cases: five traumatic; one secondary to necrosis.

Parietal lobe, four cases: two traumatic; two probably from otitis.

Left hemisphere, two cases: one traumatic.

Multiple of cortex, one case, pyæmic.

Pus in the ventricles only, three cases: one of infection from spina-bifida sac.

In seven cases the abscess is stated to have communicated with the ventricles, and in most of these the amount of pus in the ventricles was large.

In fifteen cases meningitis was present; in five of these it was localized, and in one it was tuberculous.

There were at least two cases in which the structure of the abscess wall made it probable that the abscess arose as an infection of an old cerebellar cyst. There was another case in which there appears to have been a cyst of the ventricle, and there were two more in which there was infection of a previously simple hydrocephalus. This is a feature in the development of brain abscess in very early life which merits further study.

The Results of Operation.—Operative interference was resorted to in nine cases, five of which ended in recovery. The youngest patient operated on was two months old; the youngest that recovered was twenty-two months old. Two of the successful operations were for traumatic abscesses, one in the frontal and one in the parietal lobe; the three others were temporo-sphenoidal abscesses following otitis.

One of the unsuccessful operations was for a traumatic abscess in the parietal lobe; nothing was found on opening the dura. In another case, complicating otitis, the patient was trephined over the temporo-sphenoidal lobe, but the autopsy showed the abscess to be cerebellar. In another case the patient was operated on for mastoid disease, and the skull opened with negative result; later the pushing of a probe through the dura was followed by a discharge of a quantity of pus. The fourth patient was aspirated through a wound with no benefit. In three cases further exploration of the cranial cavity was deemed unwise, because of the child's collapsed condition at that stage in the operation. Nearly all surgeons, says Dr. Holt, agree as to the great shock which attends surgery of the brain in young children, and this should make one hesitate strongly in advising surgical interference in cases of children under three years old, unless there are very definite focal symptoms.

Conclusions are drawn as follows:

1. Abscess of the brain in children under five years is rare.

2. The principal causes are otitis and traumatism.

3. It rarely follows acute otitis, but most often neglected cases, and is usually secondary to disease of the petrous bone.

4. In the cases occurring in infancy without evident cause, the source of infection is probably the ears, even though there is no discharge.

5. The development of abscess after injury to the head without fracture of the skull is extremely rare. In nearly all the traumatic cases definite cerebral symptoms show themselves within the first two weeks after the injury. In cases with falls, as remote as several months, there is probably some other cause, such as a latent otitis.

6. In a large proportion of the cases only general symptoms are present, and these in very great variety.

7. Focal symptoms may be misleading unless they are constant, and even then they may depend upon associated lesions, such as meningitis. Motor symptoms only can be trusted, since the sensory symptoms are difficult or impossible to determine in infants or young children.

8. Rapid progress, fever, and a history of injury or otitis generally make a diagnosis from tumor easy. In the slower cases, with little or no fever, valuable assistance may be obtained from lumbar puncture.

9. From acute meningitis the diagnosis is more difficult, and in the cases in which there are only terminal symptoms the diagnosis is impossible. In the more protracted cases the distinctive points with reference to abscess are the slower and more irregular course and, as a rule, a lower temperature.

10. On account of the great amount of shock attending brain surgery in very young children, an operation should not be urged unless definite localizing symptoms are present, the principal one being hemiplegia.

Dr. Holt expresses his indebtedness to Dr. Martha Wollstein for the bacteriological work done in these cases, and to Dr. Louise Cordes for drawings of the pathological specimens.

The Baltimore Protest against the Passage of Senate Bill No. 1063, entitled "A Bill for the Further Prevention of Cruelty to Animals in the District of Columbia."—A strong protest has been written by Dr. William H. Welch, of the Johns Hopkins University, against the passage of this bill. It has been printed by order of the senate, and is known as document No. 104. We regret that we have not space to publish the whole of it. It concludes as follows:

The absurdity of the claim that this bill is simply restrictive and regulative, and not prohibitive, of experiments upon animals can be shown in many of its provisions, and especially by that which forbids the survival of the animal after an experiment unless kept continuously under the influence of ether or chloroform. The only exceptions to this provision are inoculation experiments, tests of drugs or medicines, and tests of surgical procedure. The experiments which are prohibited by this provision are so many that they can not even be enumerated within the compass of this statement. All physiological and pathological experiments, where the ends of the experiment can be attained only by observation of the animal for days or weeks after some operation or after the administration (save by inoculation) of anything, except drugs or medicines, which may give pain, are prohibited by this bill, for it is impracticable to keep animals during such periods of time continuously anæsthetized. Such important experiments as those which have shed light upon the functions of the stomach by gastric fistula, or of the heart by the experimental production of valvular lesions, or of the central nervous system, kidneys, and, indeed, most of the organs of the body, by observations extending over some length of time after an experiment, are all prohibited by the conditions of experimentation imposed by this bill. All experiments are prohibited in which anything except drugs or medicines is simply fed or introduced into the stomach, in case the experiment is calculated to give pain to the animal and extends beyond the limited period in which it is practicable to keep the animal under ether or chloroform.

It may well be questioned whether it was intended to forbid the large class of important and necessary experiments of the characters described. If it was not, then the bill is so loosely drawn that it should never pass in its present form. If it was intended to exclude all of these experiments, then the blow which its enactment would inflict upon biological and medical science is simply brutal.

There are other kinds of valuable experiments which are prohibited by the bill, besides those specified, but enough has been said to show the error of the assertion made in the report recommending it, that "the bill is restrictive, not prohibitive," and to demonstrate that among the prohibited experiments are many of the highest scientific and practical value, including many which involve far less suffering to the animal than some which are permitted.

The bill provides (section 4)—

"That a license shall not be granted to any person under the age of twenty-five years, unless he be a graduate from a medical college, duly authorized to practise medicine in the District of Columbia."

There are graduates of zoology and other departments of biology under twenty-five years of age eminently qualified by their training for investigations involving experimentation upon animals. Concerning the effect of this provision upon the work of the Bureau of Animal Industry, Dr. Dabney, in the letter already cited, says: "It would at once stop some of the experiments now in progress, and if it had been enforced in past years would have prevented a large proportion of our scientific employees from doing this class of work."

The greater part of the investigations requiring animal experimentation in the District of Columbia are conducted in the Bureau of Animal Industry under the Department of Agriculture. This bill takes the scientific work of a department of the general government to a considerable extent out of the hands of the secretary of agriculture and places it to a corresponding extent under the control of officials of the District of Columbia, and that, too, for matters which concern the agricultural interests of the entire country and only in relatively small measure concern the District of Columbia. The bill accomplishes this by providing that the commissioners of the district may direct any person performing experiments to report to them from time to time the methods and results of their experiments in such form and with such detail as the commissioners may require. It will be observed that it is not the secretary of agriculture who is to be called upon to report, but it is his subordinates.

The bill further provides that if any of five kinds of animals (cat, dog, ass, mule, horse) are used for the experiment, a special certificate setting forth certain facts must be procured. The bill is singularly indefinite as to these certificates, especially not stating by whom they are to be given or to whom application for them is to be made. If, as is not improbable, it was the intention that these certificates should be granted by the district commissioners, then the scientific work of the Bureau of Animal Industry is placed practically under the direction of these district officials, for no provision of the bill exempts officers of the government from the necessity of procuring these certificates, as is the case with licenses.

No attempt has been made in this statement to present a complete analysis of senate bill 1063, and to point out all of its objectionable provisions or even to exhaust the objections to such as have been considered. No such complete analysis is necessary in order to prove the error of statements in the report recommending it that it is "reasonable and wise," "restrictive and not prohibitive," and permissive of all "useful investigations." The defects of the bill are evident enough to those who are familiar with the requirements of modern medicine, in its scientific and practical aspects, and with the needs of biological science. So evident, indeed, are they that it has generally seemed unnecessary to medical and scientific societies and individuals, who have protested in hundreds against the passage of the bill, to do more than emphasize on the one hand the great benefits derived from animal experimentation, and on the other the restrictive and prohibitive features of the bill.

Apparently so convinced have many of the advocates of the bill been of its moderation that they have assumed that these protests have been made in ignorance of the provisions of the bill, a most unwarranted and gratuitous assumption.

It surely could not have been the intention of the committee recommending this bill to inflict such serious injury upon medicine and science as, in the opinion of those who by their training, occupation, and special knowledge of the subject are most competent to judge of its workings, it certainly would inflict.

President Gilman, of the university, adds the following to Dr. Welch's letter:

I have read with care and with previous knowledge of the subject the statement drawn up by Dr. W. H. Welch, one of the ablest promoters of medical science in this country, and I concur in this strong remonstrance against the passage of senate bill No. 1063, entitled "A bill for the further prevention of cruelty to animals," etc. I believe that its passage would do harm throughout the entire country by seriously retarding the progress of knowledge. It would thus be detrimental to the welfare of men and animals.

The letter is further indorsed by Dr. Charles M. Ellis, president of the Medical and Chirurgical Faculty of Maryland; Dr. William Green, president of the Clinical Society; Dr. John I. Pennington, president of the Baltimore Medical and Surgical Society; Dr. C. W. Mitchell, dean of the University of Maryland; Dr. Thomas Opie, dean of the College of Physicians and Surgeons; Dr. David Street, dean of the Baltimore Medical College; Dr. Hampson H. Biedler, dean of the Baltimore University School of Medicine; and Dr. William Osler, professor of medicine in the Johns Hopkins University.

The Limitations and Usefulness of Bacteriological Examinations of the Blood.—Kühnau, in a thesis for his appointment as instructor in the University of Breslau (*Habilitationschrift*, Breslau, 1897), discusses very fully the work done by his predecessors on the subject of the bacteriology of the blood, and adds to this a long series of experiments of his own. The studies of the early observers were all rewarded by the discovery of large numbers of bacteria in the blood in cases of pneumonia, septic infection, and pyæmia. These were often assumed without further proof to be the cause of the disease, but, as is usual, with an improvement in bacteriological technics grave doubts were cast on these results. For instance, some observers reported that in over fifty per cent. of septic infections pyogenic cocci could be found in the blood, but the method of obtaining this fluid was to first sterilize the tip of a finger and then puncture the skin and subject to cultural tests the fluid obtained. To-day it is well known that the epidermis contains bacteria in its deeper layers and that their removal or destruction is practically impossible, and the almost certain infection of the blood flowing over this epidermis renders all results obtained by this method, to say the least, doubtful. A certain check on the results is possible by the determination of the virulence of the species obtained, because the ordinary skin cocci possess hardly any pathogenic power over animals, but it is far more scientific to eliminate this source of difficulty at the beginning by choosing a method capable of giving reasonably safe returns. To obtain these the following procedure must be carried out: Sterilize the skin over some superficial vein, then with a sterile knife lay bare the surface of the vein and plunge the needle of the syringe directly into the blood current. The material thus obtained will certainly contain no extraneous infection. It will not do to tap the vein through the skin, for the needle is very apt to carry off some of the epidermic cocci and thus vitiate the result.

The work of Kühnau is of considerable variety, and includes a large number of cases. Of twenty-three cases of severe septicæmia, only three gave any cultural results, though a large quantity of blood was always used, at least ten cubic centimetres. Of twelve cases of malignant endocarditis examined, one was positive, the *Staphylococcus aureus* being found. Of sixty-seven cases of acute articular rheumatism, one was positive. The *Staphylococcus pyogenes aureus* was found, and may be regarded as the cause of the disease, for it was also found in the pleuritic exudate which accompanied the joint lesions. Cultures from twenty-two cases of local abscess formation gave uniformly negative results. In twelve cases of severe phthisis cultural results were negative, but one case gave a positive result. In that instance a guinea-pig was found to have tuberculosis after the injection of some of the blood. One positive cultural result was obtained out of nine cases of pneumonia, though animal inoculations gave two, one case being the same as that in which the pneumococcus was found on culture media, but the experiments were all carried out in the positive cases on persons who were practically moribund, and this lessens the value of the observations somewhat, because in any infectious disease bacteria are apt to appear in the blood shortly before death. Twelve cases of influenza were uniformly negative. In forty-one typhoid-fever patients the bacillus was found eleven times. All these results show the great care necessary to produce valuable bacteriological results, for these figures, while undoubtedly correct, are far lower than have been obtained by careful observers who unfortunately worked with a faulty method, and whose results are now of very slight value. They also show that the clinician can expect but a moderate amount of help from the bacteriologist in the diagnosis of acute infections during life by cultures taken from the blood.

Tuberculosis, Diabetes, and Basedow's Disease treated by Rectal Injections of Arsenic.—At a recent meeting of the Société médicale des hôpitaux, a report of which is published in the *Indépendance médicale* for March 23d, M. Renaut presented a communication on the action of arsenic in large amounts. He stated that he had given enemata of five cubic centimetres two or three times a day of the following solution:

Distilled water............	840	grains;
Fowler's liquor............	60	"

In taking three injections a day the patient received 0.15 of a grain of arsenious acid, such an enormous quantity as could not be administered by any other method. These enemata were tolerated for weeks and months.

Tuberculosis, diabetes, and Basedow's disease were three diseases which, by different modes, reached the same degree of disassimilation, and for this reason could be treated in the same way. M. Renaut had treated three tuberculous patients for a year and one for six months with the arsenic, and they were well on the road to recovery; at the present time the pulmonary tuberculous symptoms had disappeared. In the diabetic patients the strength had returned and the sugar had diminished. Very satisfying results had also been observed in those suffering with Basedow's disease. In case of any irritation of the rectum, it was necessary only to add a few drops of Sydenham's laudanum [wine of opium] to the enemata.

The New York Academy of Medicine.—At a stated meeting of the Section in Obstetrics and Gynæcology, on Thursday, April 7th, the order for the evening was as follows: A Final Report of the Committee on the Semicentennial Celebration, and the presentation to the academy of an autograph copy of President Cleveland's address, by Dr. William M. Polk; The Pathology of Uterine Fibroids, by Dr. George C. Freeborn; Complications in Pregnancy, by Dr. Henry C. Coe; and The Surgical Treatment of Uterine Fibroids, by Dr. William M. Polk.

At the next meeting of the Section in Surgery, on Monday evening, the 11th inst., cases will be reported, and patients will be presented by Dr. B. F. Curtis.

At the next meeting of the Section in Genito-urinary Surgery, on Tuesday evening, the 12th inst., Dr. Hermann G. Klotz will read a paper on The Practical Use of the Endoscope; Dr. Forbes Hawkes will present a case of urethral calculus; and Dr. C. W. Allen will present one of double epididymitis (tuberculous), with the result of the tuberculin test. Specimens and new instruments will be exhibited.

At the next meeting of the Section in Pædiatrics, on Thursday evening, the 14th inst., the following papers will be read: A Method of Milk Modification based upon the Decimal System, by Dr. Henry L. Coit, which is to be discussed by Dr. L. M. Yale, Dr. W. P. Northrup, Dr. H. D. Chapin, Dr. F. M. Crandall, and others; and Chronic Intestinal Indigestion in Children, by Dr. S. Henry Dessau, which is to be discussed by Dr. B. Robinson, Dr. C. A. Herter, and others. Dr. J. Barsky will present joined twins, a thoracopagous monster.

Oxygenated Water in the Vomiting of Pregnancy and of Tuberculosis.—M. Gallois and M. Bonnel stated in the *Progrès médical* for March 12th (*Lyon médical*, March 20th) that they had given oxygenated water to pregnant women and to tuberculous patients for incoercible vomiting, and that the results achieved had exceeded their expectations. A dessertspoonful of the pure oxygenated water in a pint of pure water was taken with wine during meals. The authors thought there had been no suggestion. It seemed to them that the water might have exercised an action like that of Rivière's potion in freeing the gas, or else a neutralizing action by oxidizing the ptomaines which formed in the stomach. This water had no action on vomiting which was caused by a disease of the stomach.

The Late Bishop Quintard.—It may not be generally known to our readers that for a number of years the late Bishop Quintard, of Tennessee, was a member of the medical profession, a practising physician, a professor in a medical college, and a medical editor.

The Treatment of Angina Pectoris. — Huguenin (*Allgemeine medizinische Central-Zeitung*, 1898, No. 14; *Wiener medizinische Blätter*, March 17, 1898) recommends the use of pearls of amyl nitrite, especially in the beginning of the attack. These pearls are of thin glass and are to be broken on a towel and the vapor inhaled. The dose is from five to ten drops. Should the attack last for any length of time the injection of nitroglycerin is advised. A good formula is as follows:

℞ Spirit of nitroglycerin....... 10 minims;
Cherry-laurel water......... 3 drachms.
M. Twenty minims to be injected subcutaneously.

Or the remedy can be given by the mouth in a dose of one or two drops of a one-per-cent. solution. The action is rapid and can be observed in less than fifteen minutes. Small blisters to the præcordium are often useful. Between the attacks the diet should be very limited and the use of alcohol and tobacco be forbidden. Iodides should be given for at least from two to four years following an attack, and it is well to alternate the sodium and potassium salts and combine them with digitalis or caffeine. If the iodides cause any unpleasant symptoms, tincture of iodine may be used in doses of from ten to fifteen drops in a considerable quantity of water or in soup. The following formula will be found useful.

℞ Sodium iodide.............. 2 drachms;
Sodium arsenate............ $\frac{1}{2}$ grain;
Water, enough to make...... 4 ounces.
M. S.: A teaspoonful after each meal.

The Westmorland County (Nova Scotia) Medical Association.—The *Maritime Medical News* announces that officers have been elected as follows: President, Dr. C. A. Black, of Baie Verte; vice-presidents, Dr. Fleming, of Petitcodiac, Dr. Calkin, of Sackville, and Dr. Belliveau, of Shediac; secretary, Dr. Botsford, of Moncton; and treasurer, Dr. McCully, of Moncton.

The Moncton (Nova Scotia) Medical Society.—On February 11th, says the *Maritime Medical News*, officers were elected as follows: President, Dr. C. T. Purdy; vice-president, Dr. G. T. Smith; secretary, Dr. R. L. Botsford; and treasurer, Dr. F. J. White.

The Library of the New York Academy of Medicine.—We learn that the library committee has under consideration a suggestion that the library be kept open, for members only, on Sundays, from 10 A. M. to 5 P. M.

The Death of Professor Stricker, of Vienna, is reported to have taken place on Saturday, the 2d inst.

The Survival Movements of Human Infancy.—In an interesting leading article in the *Medical Age* for March 25th the writer refers to a paper on this subject in a recent number of *Brain*, in which the author devotes considerable study to what he terms the survival movements of human infancy. He states that the early limb movements of newborn children are purposeless in character, that they differ in form and rhythm from those of later date, and are probably similar to those which are present *in utero*. Though these movements are purposeless, so far as individual life is concerned, they are not so, the writer thinks, as regards the development of the race; they are vestiges of functions of the limb which were probably of chief importance to the members of the race at another time. Like the pineal gland and the appendix vermiformis, he says, they testify to certain conditions that man has almost outlived; they speak of a past so long ago that the distance man is now removed from it can hardly be traversed.

The writer thinks that these survival movements furnish another link in the chain of evidence substantiating descent from arboreal ancestors, and he quotes Darwin in support of this theory: "Our progenitors, no doubt, were arboreal in their habits and frequented some warm forest-clad land. At a still earlier period the progenitors of man must have been aquatic in their habits, for morphology plainly tells us that our lungs consist of a modified swim-bladder which once served as a float. The clefts on the neck in the embryo show where the branchiæ once existed. We apparently still retain traces of our primordial birthplace, a shore washed by the sea."

Analysis of the spontaneous movements of the human infant, the writer continues, readily lends itself to such an interpretation of the early racial struggle, and these movements are easily grouped into the following three classes: 1. Those of simple progression, aquatic, terrestrial, or aerial. 2. Those of prehension or of arboreal existence. 3. Those of manipulation, including the destruction or breaking up of food or the search for it by digital investigation into holes and crannies.

The survival movements of prehension are numerous, the writer thinks, and he refers to experiments made on sixty babies by Dr. Louis Robinson some years ago, in which he showed that the inherited power supplied them with sufficient strength to sustain their own weights on a horizontal bar. The survival movements of digital examination include various poking and searching manipulations, principally with the index finger.

The question of inherited and fundamental movement is, says the writer, an exceedingly interesting one, and should make child study of intrinsic importance in medicine.

"Black-water" Fever.—In Central Africa, and indeed throughout the whole of tropical Africa, says Mr. Stanley Kellett Smith in the *Lancet* for March 19th, there is a bilious hæmoglobinuric fever called "black-water" fever. It occurs, as a rule, only in those who have been for some considerable time in the country and who have suffered from repeated attacks of ordinary fever. It seldom or never attacks the newcomer, but it may appear rapidly in former residents of a malarious district upon their return to it after an absence in a healthy climate. Europeans are the chief sufferers, although cases are not rare among the natives.

The clinical features of the disease are those of a severe remittent fever. The cold stage is usually well marked; there may be severe retching and bilious vomiting together with diarrhœa, and bleeding from the mucous tracts sometimes occurs. Finally, there are the cardinal symptoms referable to the rapid and extensive disease—namely, quickly developed jaundice and the passage of dark porter-colored urine containing oxyhæmoglobin, methæmoglobin, and urobilin.

Many patients recover, says the author, and many die. A good index of its fatality, he thinks, is given by the fear in which "black-water" fever is held by the white man. It must always be regarded as a very serious illness. Death may ensue from enormous destruction of the red blood cells, when the symptoms are similar to those of profuse hæmorrhage; from uræmic poisoning resulting from total suppression of the urine; and from interference with some vital cerebral centre owing to the blockage of capillaries by masses of malarial parasites or to actual hæmorrhage. As a remote sequence the kidneys may become cirrhotic from the nephritis accompanying and following the disease.

The pathology of "black-water" fever, says the author, is as yet an almost virgin field, and the literature on the subject is so scant and contradictory as to afford few points of definite argument. Whatever its pathology may be, it is certain that there occurs an enormous destruction of the red cells, and that there arises great irritation of the kidneys from the excretion of toxic products. The first is self-evident; in two cases reported by Boison the blood count fell respectively from 1,700,000 to 670,000, and from 2,400,000 to 1,600,000 in twenty-four hours; the second is shown not only by clinical signs, but also by post-mortem examinations. Theoretically, then, quinine is contraindicated in "black-water," and, as a matter of fact, experience shows that its employment in the earlier stages of the disease, when the fever is still active and the chief clinical sign yet marked, is not attended by very effectual results. This has been hitherto explained upon the ground that "black-water" fever is not purely malarial, that it is a separate infection, or that it is a malarial plus a separate infection. Taking the opposing view—namely, that "black-water" fever is acute malarial fever pure and simple—is it not reasonable to suppose, asks the author, that the failure of the quinine is due to its aggressive action upon the malarial parasite being cloaked, in a system the equipoise of which is so seriously disturbed and in which the red cell has possibly lost some of its powers of resistance, by its own chemical effects upon the blood and the excretory organs?

"Black-water" fever, he continues, gives the traveler the impression of being indissolubly bound up with the malarial process, and the more intense that process in any particular district or at any particular season the more frequent is the "black-water" complication. Its geographical distribution is of much interest. It occurs only in malarious countries and attracts most attention in tropical Africa and the islands adjacent, the West Indies, central and the southern parts of Northern America. Every malarious country, however, does not of necessity show much "black-water." The great and striking example is India, where the cases are so very rare that many people engaged in commerce and in the civil and military services in the different parts of the continent, with lifelong experience of the Indian fevers, have never even heard of the "black-water" fever and fail to recognize its clinical description from any instance in their knowledge. Arguing from this, Manson says: "Considering the peculiar clinical manifestations it gives rise to and the facts of geographical distribution, I think it very likely that the parasite of malarial hæmoglobinuric fever is specifically different from the malaria parasites usually met with in Europe and perhaps in India." A perfectly fair suggestion, the author thinks, but one which opens up a vista of numerous "breeds" of the malarial plasmodium—a breed for each frequent and distinct complication, a breed for the malarial hæmatemesis of Laurenço-Marques, a breed for the curious anterior tibial paralysis of Likoma, and so on. Boison, in the report of by far the most exhaustive necropsy of the disease published—a case occurring in a soldier invalided from Madagascar—says: "The malarial parasite was present in extraordinary numbers, free and associated with red blood-corpuscles, seven out of ten red blood containing it." Unfortunately, no identification of the particular parasite in this instance with the ordinary malarial parasite of Madagascar is given. Valuable information regarding the organism of "black-water" may accrue from the further investigation of the widely distributed "cattle malaria," which is so far akin to the human malaria that it is "caused by an endocorpuscular parasite, develops only in malarial neighborhoods and seasons, is most favorably influenced by quinine," and in its worst and most fatal form is accompanied by the passage of bloody urine.

The following conclusions, Mr. Smith thinks, may be summed up: That "black-water" fever is distinctly malarial in nature; that there is no evidence of any specific difference between its parasite and the ordinary malarial parasites of the country in which it occurs; that its parasite exists in great numbers in the blood of an infected person; that enormous destruction of the red cells takes place by habitation of the parasites and possibly also by direct action of toxines produced by them; that the derivatives of the color-plasma of the destroyed cells become dissolved in the blood, its serum showing the presence of oxyhæmoglobin, hæmatin, and urobilin (Boison); that the liver and spleen, from the circumstances of a present attack and from the effects of previous malarias, are unable to manipulate these derivatives; that they are therefore excreted by the kidneys, which in the process may become so inflamed as to show actual hæmorrhages—a result favored by the cachexia of the white man dwelling in a malarious country. So much, the author adds, for a description which rests partly on speculative grounds. What is a certainty is that this disease, so little understood, is carrying off scores of our best men in Africa, is responsible for the deaths of many of the most intrepid of our pioneers, is checking the advance of civilization in great tracts of country otherwise well suited for the white man; and it would be well, he thinks, were those in authority, and who have the power, to give independent stimulation and help toward the elucidation of the pathology and treatment of this "black-water" fever.

"Colored Audition."—In the *Revue de médecine* for March 10th M. Grafé states that instances of "colored audition" are more frequently observed than is generally supposed, and that at the present day they may be counted by hundreds. A sufficient and definitive explanation of this phenomenon has not, however, been reached. The following case seems to the author worthy of being recorded on account of certain peculiarities: The subject was a medical student, about twenty-four years old. For a long time he experienced what he called sensations of "colored audition," but he paid no attention and attached no importance to them until after he had read Dr. Max Nordau's *Degeneration*, in which he read that science was investigating this sort of phenomenon, and some months later he sent a *résumé* of his observations to M. Grafé.

The consonants, whether articulated in his presence or met with while reading, did not evoke in his mind anything unusual, but it was not so with the vowels. It was not that they appeared to him colored with peculiar tints, as had been the case with other subjects, but that which he saw, or rather conceived, when he saw one of these letters, was a spot of an indefinite form, which became carmine red for the letter *a*, yellowish-white for *e*, black for *i*, very clear for *o*, and brown for *u*. If he intended to pronounce separately one or the other of these vowels, he experienced the impression of the corresponding color; it was the same if he perceived the vowels in any combination whatever, written or spoken, or even if he simply thought of them. In every instance the phenomenon was spontaneously produced without any previous effort or reflection on the part of the subject. He told the author that it seemed perfectly natural to him, and that for this reason a language containing many of the vowels *a* and *u*, such as Italian or Spanish, seemed to him very full of color, and he felt that if he had time, it would give him pleasure to study them. It was, at least, what he had experienced in learning Latin and Greek. The Flemish language had always seemed very dull to him on account of the predominance of the letter *e*.

The author was struck in this connection with the fact that the colored representation was not evoked, immediately at least, by an auditory sensation; it was sight, or rather the visual imagination, which intervened in this case to produce directly the appearance of the concomitant color. In evidence of this, when the subject intended to pronounce a diphthong, whether separately, in a word, or in a phrase, he saw the colors which were associated with each of the letters which composed this diphthong appear successively. For example, the sound *au* in the word *pauvre* called forth the representation of red, then of brown, respectively associated with the audition of the vowels *a* and *u*; the sound *ou* gave white and brown, *o* and *u*, etc.

There is here, the author thinks, a phonetic or comprehensive interpretation of the vowel, or rather a replacement of this by the visual representation of the written or printed vowel, which suggests the idea of a definite color. Is it, the author asks, "colored audition" in the proper sense of the word? Is it not rather "colored reading"? M. Mendoza, he says, who published a work on the subject, has classed these phenomena in the group of pseudo-photoæsthesiæ of optic origin, or colored vision.

Whatever it may be, the author thinks it should be recognized that in this case it is a manifestation of the great law of the association of ideas. But why, he asks, should this manifestation be produced in certain subjects to the exclusion of others? M. Grafé is inclined to think that, as the vowels *a*, *i*, and *u* are found respectively in the words *carmin*, *noir*, and *brun*, the sight of these letters recalls the names of the colors and consequently their representation. Regarding the letters *o* and *e*, the author has given up seeking an explanation, which, moreover, in his eyes, would have a purely conjectural value. Does heredity, he asks, count for anything in the formation of these connections? It is the generally admitted opinion, he says, at the present time, and the facts seem to confirm it.

In this case, particularly, the subject's maternal grandfather had been a talented painter, and his great-uncle had also handled the brush with skill; furthermore, he had been brought up in an artistic centre. This would explain the taste that he evinced for fine pictures, bric-à-brac, etc., but the author does not understand why the sight or the "audition" of the letter *a* should constantly and immediately evoke the representation of the color red, or why he should always associate, without divining the reason, the visual or auditory sensation of the letter *i* with black. To say that it is chance in this case, M. Grafé says, is to renounce all scientific explanation, for there is here a coincidence which has excited the attention of the least prejudiced observers. If it is true to say that, in a sense, each "colored audition" has its chromatic alphabet, it is none the less true that ninety-five times out of a hundred two of the vowels—namely, *a* and *i*—are red or black or white. In the case referred to the patient, it will be seen, is no exception to this rule, which, if it was better studied, better understood, would lead to the discovery of a more general law governing the relations which exist between the different sensitive manifestations and also the harmonies which bind all created things to our mental and physical constitution.

The Influence of Locality on the Prevalence of Malignant Disease.—In the *British Medical Journal* for March 12th Dr. Edward Noel Mason gives the results of an investigation begun three years ago in regard to the apparently disproportionate frequency in the occurrence of malignant disease in some districts as compared with others. In one locality, he says, cases of malignant disease occurred with alarming frequency, while in another in close proximity to the first but few were met with. He states that he spent considerable time in ascertaining and making a record of all deaths from malignant disease which occurred in the various districts, and that all the statistics seem to point to one thing very clearly—namely, that the cases of malignant disease tend to group themselves chiefly about the low-lying land in the neighborhood of the sluggish streams, or where there is little fall, and where the subsoil must in consequence be but indifferently drained. Furthermore, he says, apart from statistics, he is convinced from direct observation made, especially in the Nuneaton district, that the closer to the stream the more frequent the occurrence of malignant disease. He thinks it may be that this connection holds good only where the stream is sluggish, contaminated by sewage, and liable to flood, as was the case in all the districts he specially investigated.

As further bearing out this connection, he refers to a large parish in the north of England from which he was able to obtain some statistics. In this parish, the population of which is four thousand, and which covers a wide area, nearly all of which is on high, well-drained land with no sluggish streams, only five cases of malignant disease occurred in ten years. One corner of this parish slopes rapidly down to a river, and it is in this part of the parish, on the first rise above the river, that three of the five cases occurred, while the remaining two arose in a part of the parish which, though on absolutely high land, lay in what was relatively a hollow in which the ground was always marshy and undrained. The percentage mortality for this district is 0.125, as is also roughly that of a certain district in Derbyshire which chiefly consists of upland country—that is, the percentage for these chiefly upland districts is only one seventh that for the Stratford-on-Avon district, and only one fifth that for the Atherstone and Nuneaton districts.

Such a pronounced difference, he thinks, for different localities as these statistics show can not be without meaning. The facts, he says, point most strongly to some direct connection between residence in the neighborhood of sluggish streams or ill-drained, sodden, contaminated soil and the prevalence of malignant disease. Some external agency must be admitted as one of the factors in the causation of malignant disease, and, whatever its nature, must be produced by, or have its habitat in, or at least be directly connected with, stagnant or nearly stagnant water or ill-drained soil. Persons residing in the near neighborhood of such physical conditions would necessarily be more frequently brought under the influence of this external agency than those living at a greater distance. In this direction only, he says, can we seek for an explanation of the marked increase in mortality from malignant disease in those districts where such conditions obtain. This external agency must act in one of two ways, either as the direct exciting cause or as an indirect predisposing cause. In the former case one must presuppose the existence of a micro-parasite as most probably the chief factor in the causation of malignant disease. This assumption explains certain peculiarities of malignant disease itself as well as of its distribution. In the latter case one must suppose that certain climatic conditions so influence the human body as to prepare the way for the development of malignant disease.

If we assume, the author continues, that one of the factors in the causation of malignant disease is a micro-parasite, we must agree that such micro-parasite is most probably a protozoon, and may be comparable in some respects with the protozoon or protozoa associated with the various forms of malarial disease. If such an organism exists, it is not improbable that it may undergo changes both within and apart from its host, and through the medium of discharges gain access to streams or ill-drained soil. Here it may find suitable media for its development and multiplication. Under such circumstances it would not be unreasonable to conclude that, as in the case of the organisms connected with malaria, exhalations from water or sodden soil thus impregnated might be the means of conveying the infection; this would also explain the undoubted existence of "cancer houses." The perfectly healthy human body may no doubt be quite proof against any amount of such organisms; but, given favorable conditions, such as chronic tissue irritation, traumatism, degeneration of tissues from disease or senile changes, or the presence of "fœtal remnants," as suggested by Virchow, added to which may possibly be in some cases individual or inherited proclivity, and a lodgment of the micro-parasite might follow.

That the development of micro-parasites in animal tissues may produce proliferation of cell elements is unquestionable, as, for instance, in the case of psorospermosis affecting the liver in rabbits, and also in the case of Paget's disease in the human subject. Whether such proliferation be due to the organism directly or to the chemical products of its growth and development is of secondary importance.

Dr. Mason states that many competent and careful observers have described appearances found in microscopical preparations of both carcinomata and sarcomata consistent with this view, and that another fact, which a study of the cases he has collected brings out, indirectly supports this assumption. When the organ or region in which the disease has developed is noted, it appears that in those districts on higher and better drained land where malignant disease is less common, a larger proportion of the cases which do occur have some more or less obvious predisposing cause, and, he is inclined to think, run a more chronic course. Here such cases as surface epitheliomata following definite irritation, carcinomata of breast, uterus, or rectum are found in greater proportion. In close proximity to the streams, on the contrary, malignant disease of some of the less commonly affected organs or portions of the intestinal tract is found with unexpected frequency, and, he thinks, runs a more rapid course. This would suggest that in the neighborhood of the streams, where the infective agent would presumably be in greater abundance, malignant disease attacks organs which would escape under more favorable circumstances.

The author quotes Dr. Léon Noël, whose conclusions in the *Revue des maladies cancéreuses* are as follows: "Cancer regions exist close to regions enjoying an immunity. These latter are generally in dry localities and some distance from streams. In these cancer regions one of two conditions prevails—either they are closely populated, or, if the houses be spread about at some distance from each other, a rivulet or stream connects them."

Regarding the disputed question of heredity, Dr. Mason relates the following series of cases, the occurrence of which, he thinks, can hardly be explained without that factor: In one family of two generations numbering sixteen individuals reaching adult years ten have died; of these ten, three have died of carcinoma of the uterus, two of carcinoma of the stomach, and one of carcinoma of the liver, while of the six yet living one has a large tumor of the neck, and one a tumor of the arm, which has recurred after removal.

The facts which this investigation has brought out, and which may readily be confirmed by any one who will take the trouble to tabulate all the cases of malignant disease occurring in his own neighborhood, seem to him to be of considerable importance.

Original Communications.

THE ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM AND ITS CONSTITUENT NEURONES,

AS REVEALED BY RECENT INVESTIGATIONS.

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IV.

(*Concluded from page 246.*)

WHEREAS the origin of the motor fibres of the peripheral nerves and the intrinsic intramedullary fibres is to be sought in the neuroblasts of the medullary tube, these do not give rise to the general peripheral sensory nerve fibres and the nerve fibres of the organs of special sense, nor to the fibres and cells of the sympathetic nervous system. How, then, is their origin to be explained? Concerning this there has been some dispute, but the skein is being gradually disentangled. From a given period of development on, one can make out near the medullary tube on each side groups of cells which represent the beginnings of the sensory ganglia of the dorsal roots of the spinal nerves, so that the cell bodies of all the sensory neurones of the first order are situated outside the neural tube—that is, outside the spinal cord and brain (Fig. 77).* The studies of His, Marshall, Balfour, Beard, von Lenhossék, and others have taught us whence these cells are derived. All are agreed that they come from the ectoblast at the junction of the edges of the medullary plate with the adjoining ectoblast, although there are a number of researches which make it probable that a certain number of the cells do not wander off until the medullary tube has been constricted off from the ectoderm. In the front part of the head, corresponding to the sensory region of the trigeminus and especially to the acoustic-facialis area, there exist in the ectoderm, at points corresponding to this junction, definite ridges which are crowded with dividing cells quite like those that His takes to be the forerunners of the neuroblasts in the medullary tube.

In the region of the ear fossa these cells can often be seen heaped up as a compact column shoved in between the ectoblast and the medullary tube. In the trunk, however, no marked aggregations of germinal cells are visible at an early stage, and, according to His, the ganglia of the spinal nerves in human beings are formed of neuroblasts which collect in groups after wandering out from the portions of the ectoblast adjacent to the medullary tube. According to others, the spinal ganglia are made up of neuroblasts which wander out from the dorsal edge of the medullary tube. Dr. Mall tells me that in Necturus he has observed a number of the ganglia of the tail having their origin in a pinching off of ganglionic masses from the ganglia lying farther headward.

The young cells giving rise to the nerve elements of the spinal ganglia divide by caryocinesis even for some time after they have arrived among the ganglionic groups. The further development of the individual cells, thanks to the researches of His, is now very well known. The cells assume a bipolar shape, one process growing from each pole. The process corresponding to the dendrite (that is, the one arising on the pole of the neuroblast, which originally was turned toward the external surface of the embryo) grows toward a peripheral sensory surface, the process corresponding to the axone growing centralward until it reaches the outer surface of the medullary tube, into the wall of which it penetrates. Bundles of these, assuming in the spinal cord a longitudinal direction, go to make in the primary dorsal funiculi, in the medulla, the analogous tractus solitarius, the radix descendens nervi vestibuli, and the tractus spinalis nervi trigemini. These relations are well shown, as are those of some of the cells of the ventral horns, in the accompanying figure, copied from Van Gehuchten, which represents the development in the chick

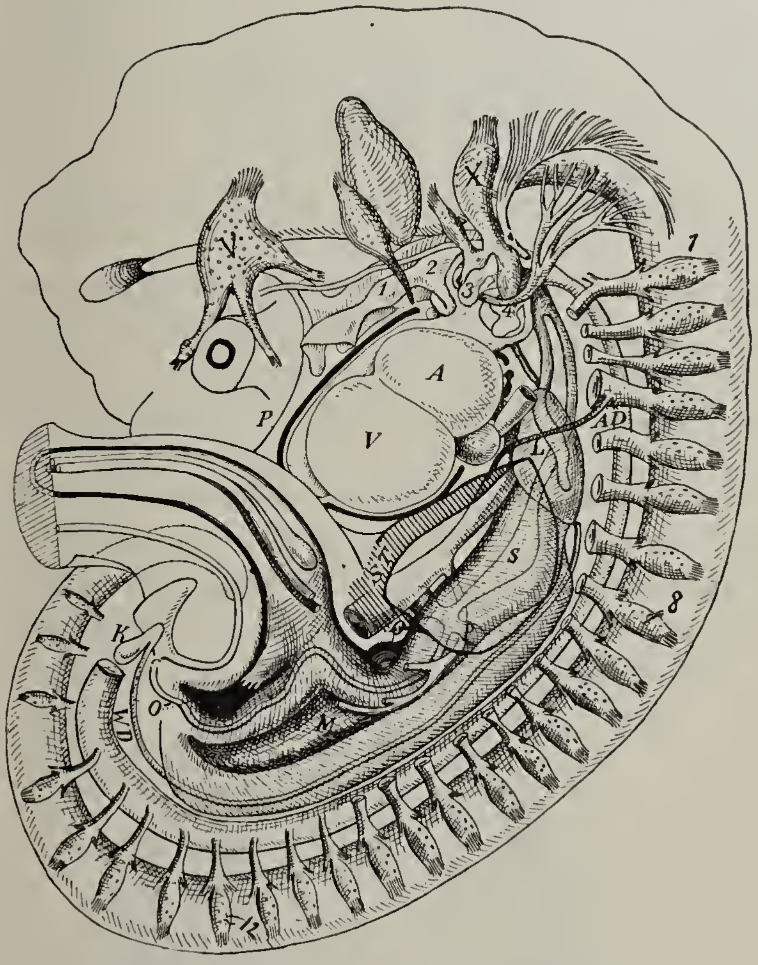

FIG. 77.—Reconstruction of human embryo at end of fourth week, showing development of sensory ganglia. (After Mall.) *V*, Gasserian ganglion; *X*, vagus ganglion; 1, first cervical ganglion; 8, last cervical ganglion; 12, last thoracic ganglion. The phrenic nerve is seen arising from the fourth cervical nerve.

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* That in development the system of the sensory ganglia can grow entirely independently of the presence of the medullary tube, or, perhaps more safely expressed, that the sensory ganglia may be present in the absence of a spinal cord, is well shown by the case described by von Leonova, O. Zur pathologische Entwickelung des Centralnervensystems. *Neurol. Ctrlbl.*, 1893, Nos. 7 and 8.

(Fig. 78). An earlier stage is well illustrated in Fig. 68 (*vide supra*). The two processes of the spinal ganglion cell, central and peripheral, go off from one edge of the cell, being at first in a direct line with one another, the nucleus and the main mass of the cell body, as His describes them, lying eccentric to the fibre. This bipolar condition is in some animals maintained throughout life. In the fish, for example, even in adults, nearly all the spinal ganglion cells are bipolar (Fig. 79), and it is of no little interest to find that in human beings, and in mammals generally, in the ganglion on the cochlear nerve (Fig. 80) (ganglion spirale) and in the ganglion on the vestibular nerve (ganglion vestibuli) this primitive bipolar condition of the cells is also maintained throughout the whole of life. But in all the other sensory ganglia of man there is a gradual transformation from the bipolar to the unipolar condition, typical of the adult spinal ganglia, recognized and described by Ranvier more than twenty years ago. Occasionally, single bipolar cells persist even in the spinal ganglia of the adult, as recent research has shown. In the accompanying diagram (Fig. 81) the early steps in the formation of the T-fibre of Ranvier are well illustrated. It is obvious that the change consists more in the formation of a protoplasmic pedicle than in a gradual approximation and fusion of the central and peripheral fibres, as was formerly taught. The cells in the developing spinal ganglion of a guinea-pig stained by Van Gehuchten by Golgi's method show very clearly the mode of transformation (Fig. 82). The sheath of the spinal ganglion cells appears to be mesoblastic in its origin, although some assert that it also has its origin from the ectoblast.

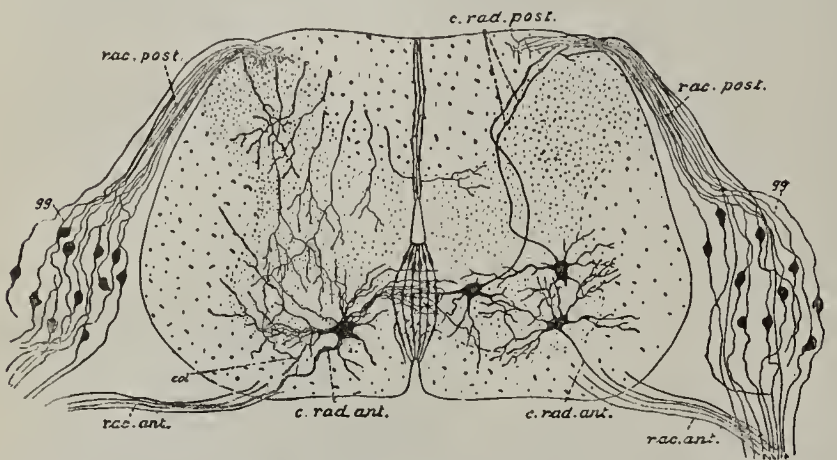

FIG. 78.—Transverse section of the embryonic cord of the chick. (After Van Gehuchten.) *c. rad. ant.*, cells which give rise to axones of ventral roots; *c. rad. post.*, cells which give rise to the few centrifugal axones of dorsal roots; *col.*, collateral (side fibril) passing from axone of cell of the ventral horn back into the gray matter; *gg*, cells of spinal ganglia; *rac. post.*, dorsal root fibres; *rac. ant.*, ventral root fibres.

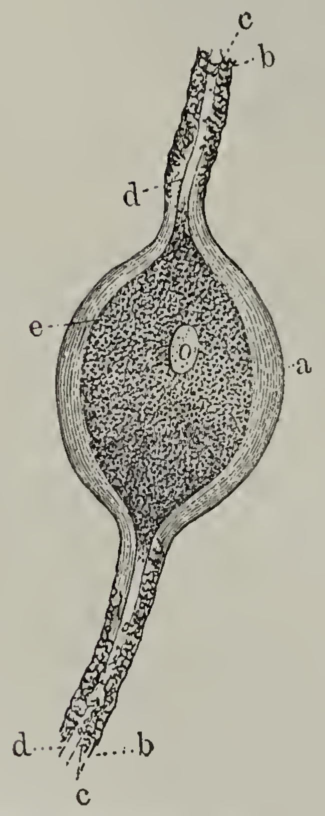

FIG. 79.—Bipolar cell from the spinal ganglion of the pike. (After Kölliker.) *a*, sheath of the cell body; *b*, sheath of the nerve fibres; *c*, myelin sheath; *d*, axones; *e*, cell protoplasm; *o*, nucleus.

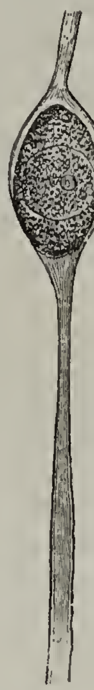

FIG. 80.—Bipolar ganglion cell from the ganglion spirale of the pig. (After Corti.)

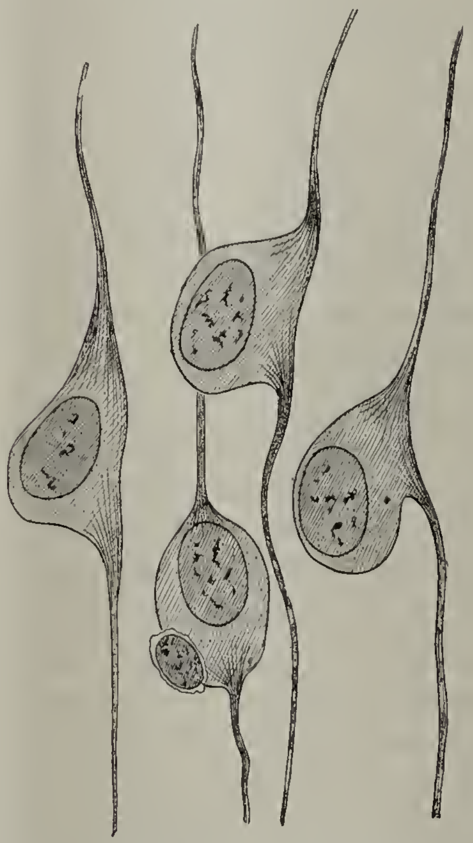

FIG. 81.—Schematic representation of the gradual transition of the bipolar cells of the spinal ganglia to the so-called unipolar type. (After His.)

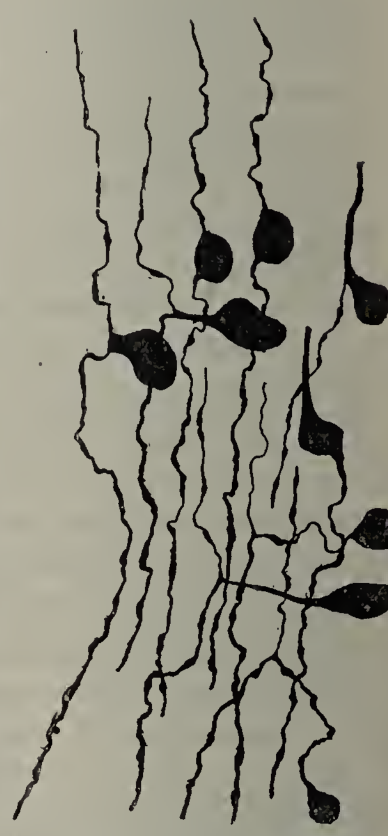

FIG. 82.—Transformation of bipolar cells into unipolar cells in the Gasserian ganglion of the pig. (After Van Gehuchten.)

A few multipolar cells occur also in the spinal ganglia. These cells, previously seen in the embryo by Disse, von Lenhossék, Ramón y Cajal, and Spirlas, and thought to be rare and of little significance, are said by Dogiel to occur also in the adult.

Dogiel has recently given an account * of a special hitherto undescribed variety of cell in the spinal ganglia, which he names "spinal ganglion cell of the second type." The main axone of the cell breaks up inside the ganglion into a large number of medullated fibres, which finally lose their medullary sheath and terminate within the ganglion in a fine pericellular arborization about the spinal ganglion cells of the ordinary well-known type.

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* Dogiel, A. S. Der Bau der Spinalganglien bei den Säugethieren. Vorläuf. Mittheil. *Anat. Anz.*, Bd. xii, 1896, No. 6, p. 140.

The axones of the cells of his second type, according to Dogiel, form not only an extracapsular feltwork, but also a fine intracapsular feltwork about the spinal ganglion cells (Fig. 83). The spinal ganglion cells of Type II are, he thinks, in turn surrounded by nerve endings from the sympathetic, a finding which, if confirmed and taken in connection with the observations of Ehrlich, and especially of Ramón y Cajal,* is of extreme significance in dealing with the functions of the spinal ganglia and the relations of the spinal and sympathetic systems to one another. I have reproduced in Fig. 84 Dogiel's schematic representation of his conception of these relations inside the spinal ganglia.

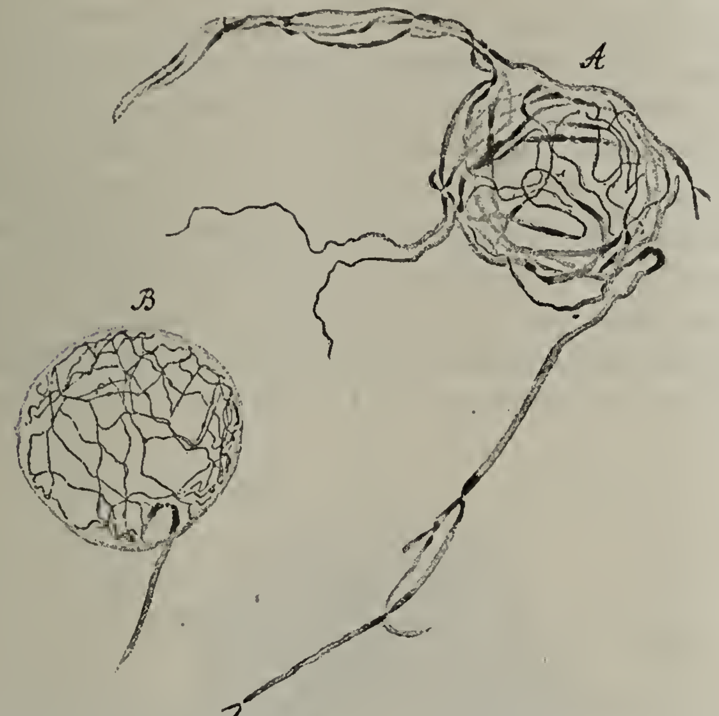

Fig. 83.—Feltwork about spinal ganglion cells of the cat formed by divisions of the axones of "spinal ganglion cells of the second type." (After Dogiel.) *A*, pericapsular plexus; *B*, circumcellular plexus.

It would take too long to describe in detail the mode of development of the organs of special sense. It is interesting to find that the development in them conforms very closely to that met with in the sensory nerves in general. All the peripheral neurones in the organs of special sense, as in the spinal ganglia, arise from cells of the ectoblast and pass through the neuroblastic stage, the axis-cylinder processes of the neuroblasts growing into the central organs to terminate in them in free endings. In the ear, for example, the ganglia connected with the cochlear and vestibular nerves contain cells whose two processes grow away from the ganglia, the one toward the periphery (to the cochlea or to the vestibule), the other toward the centre to the nerve tube at the junction of the medulla and pons. These ganglia are in every way analogous to dorsal-root ganglia, their only peculiarities consisting in (1) the short distance which the peripheral process has to go before terminating; (2) the maintenance throughout life of the bipolar condition.

In the eye, too, all the nerve elements of the retina are of neuroblastic origin, and the axones of the cells of the ganglion-cell layer, growing backward, pass by way of the optic nerve and of the optic tracts into the mid-brain and inter-brain. The eye differs somewhat in origin from all the other sense organs, in that the embryonic masses of neurones, making up the optic vesicles from which the eyes are formed, grow out as lateral projections from the general medullary tube. Later, however, they become practically separated from the central nervous system, and the final organic nerve connection is subsequently made by the growth of axones, from the nerve cells deposited at the periphery, back into the central nervous system (Fig. 85).* The most peripheral olfactory sensory neurones deserve especial mention, since in the nose we find the only evidence in human beings of a condition quite general in invertebrate forms (*cf.* researches of von Lenhossék on the central nervous system of lumbricus, and the investigations of Retzius upon invertebrate forms). In the olfactory mucous membrane the early stages of the neuroblasts are present among the epithelial cells, just as in the ectoblastic ridges from which the spinal ganglion cells arise. But instead of these young cells wandering out from the epithelial plate, as appears to be the case with the cells of the spinal ganglia, in the nose they re-

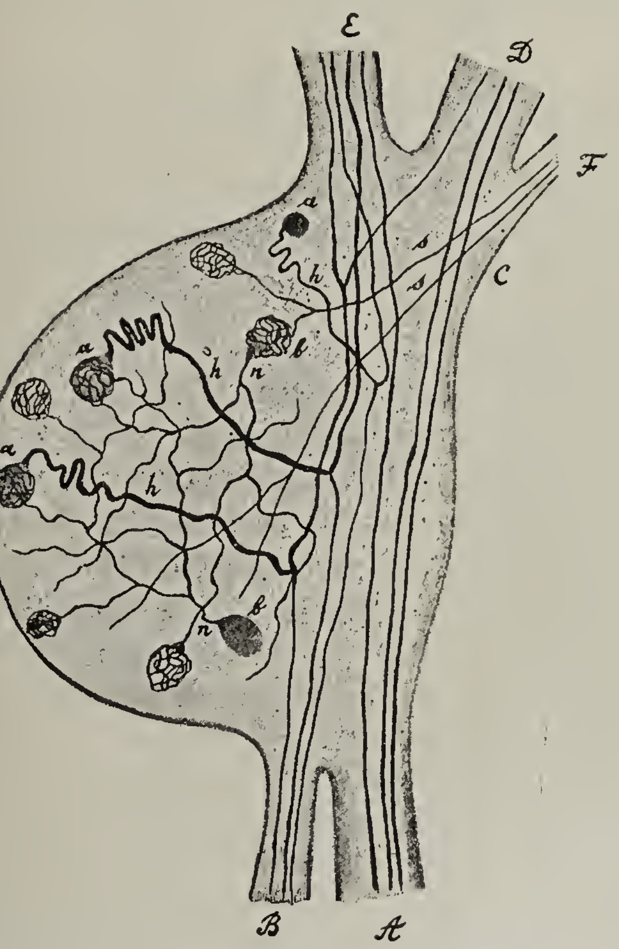

Fig. 84.—Scheme of the reciprocal relations of the elements within the spinal ganglion, according to Dogiel. *A* and *B*, ventral and dorsal roots; *C*, spinal nerve; *D* and *E*, ventral and dorsal divisions of spinal nerve; *F*, Ramus communicans (sympathetic connection); *a*, *b*, spinal ganglion cells of the first and second type; *h*, trunk processes of cells of the first type which divide to form the axones of the peripheral and central fibres; *n*, axones of cells of the second type which end as a pericellular feltwork about the cells of the first type; *s*, sympathetic fibres which end as a circumcellular plexus about the cells of the second type.

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* *Pequeñas Communic. Anat.*, December 20, 1890, i.

* *Cf.* Mall, F. P. *Op. cit.*

main throughout life situated in the mucous membrane itself, the axones, which, by the way, never become medullated, growing upward and backward through the cribriform plate to enter the olfactory bulb, where they terminate in free end-arborizations within the olfactory glomeruli. In these neurones, therefore, the only representative of a dendrite is the hairlike distal end of the olfactory sense epithelial cell, and the bodies of the ganglion cells are more superficially placed than are those of any other mammal sense organ.

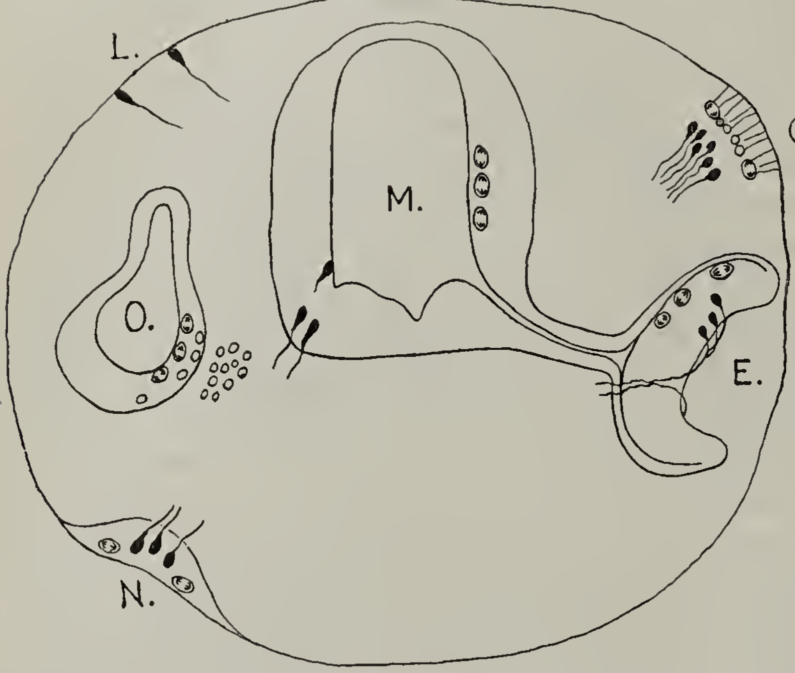

FIG. 85.—Composite diagrammatic transverse section of the head of a human embryo to show the growing point in the nervous system, and the direction of the growth of the fibre. *M*, medullary canal; *E*, eye; *O*, ear; *N*, nose; *C*, cephalopod eye; *L*, sensory cells from the skin of Lumbricus. (After Mall.)

The sympathetic nervous system is that which shows in its development the most marked wanderings of the different constituent elements. Soon after the outgrowth of the spinal nerves toward the periphery there can be seen coming off from them at the dorsal edge of the cœlom, short visceral branches, which run over toward the aorta (Fig. 86). These appear before any sympathetic ganglia are present and correspond to the rami communicantes. All authors agree that the ganglion cells of the sympathetic ganglia have an origin in common with that of the spinal ganglia, although it would appear that Onodi's original view that the former were formed by a sort of pinching off of the latter is incorrect. According to His, the sympathetic ganglion cells are formed from unripe motile elements which wander out from the spinal ganglia into the regions subsequently occupied by the sympathetic chain. These wandering cells traveling in the paths of least resistance tend to collect in groups, the sympathetic ganglia; although scattered along the sympathetic nerve trunks throughout life, the single ganglion cells remain demonstrable. Any one who has carefully studied even ordinary sections stained in hæmatoxylin and eosin from the heart, alimentary tract (plexuses of Auerbach and Meissner), the tongue (Fig. 87), the blood-vessels, the bladder, the sexual organs, and elsewhere, must be familiar with these ganglion cells, and it is now believed that all of them which are to be found in the viscera, amounting in all to thousands, or perhaps millions, of elements, have had their origin in this nomadic way. The younger His * and Romberg have already worked out the mode of formation of the ganglia belonging to the heart, and have thus established for the first time a satisfactory anatomical basis for the physiology of the nerves of the heart, and a starting point whence perhaps those puzzling clinical problems in connection with the cardiac neuroses may be advantageously approached. It is true that in as far as regards the exact history of the development in the other viscera, we are for the most part still profoundly ignorant, and a vast and attractive field lies here open to the investigator.

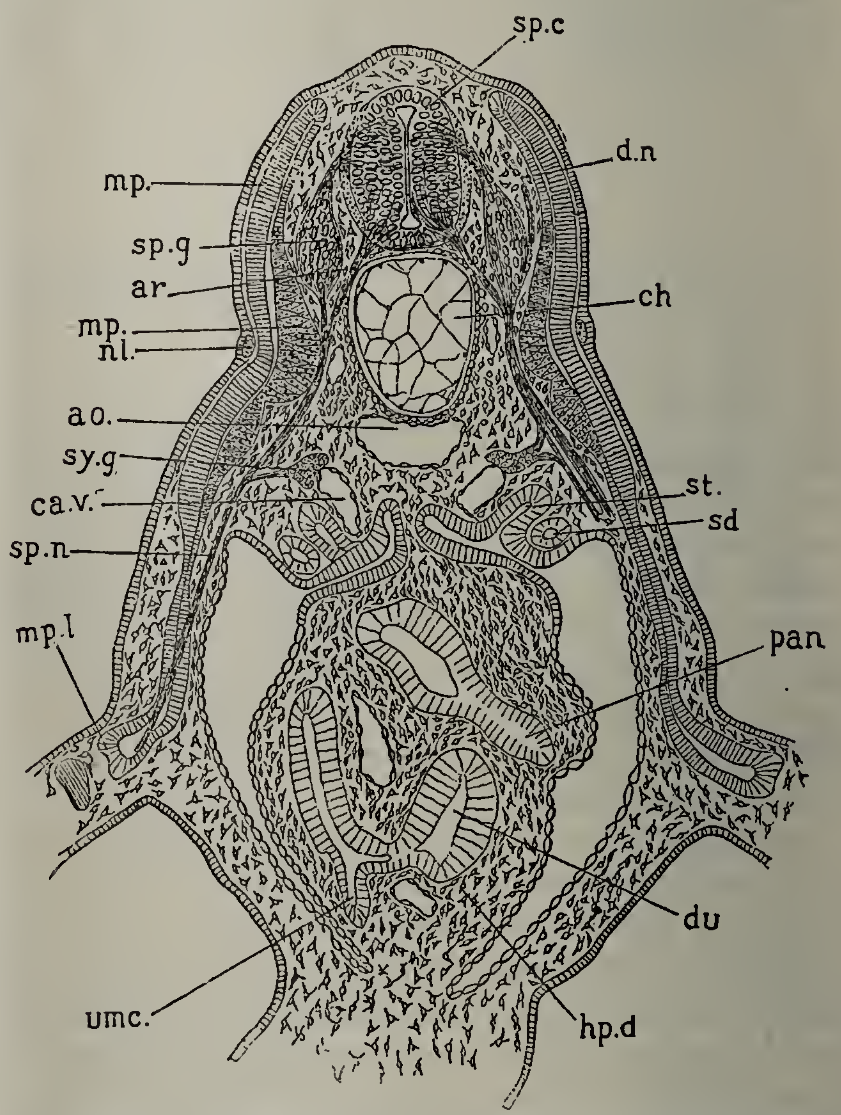

FIG. 86.—Transverse section through the anterior part of the trunk of an embryo of Scyllium. (After Balfour.) *sp. c.*, spinal cord; *sp. g.*, ganglion of dorsal root; *ar*, ventral root; *dn*, dorsal; *sp. n.*, ventral branch of spinal nerve; *mp′*, part of muscle plate already converted into muscle; *mp. l.*, part of muscle plate extending into the limb; *nl.*, nervus lateralis; *ao*, aorta; *ch*, notochord; *sy. g.*, sympathetic ganglion; *ca. v.*, cardinal vein; *sd*, segmental duct; *st*, segmental tube; *du*, duodenum; *hp. d.*, junction of hepatic duct with it; *pan*, rudiment of pancreas connected with another part of duodenum; *umc*, opening of umbilical canal (vitelline duct).

The sympathetic cells differ in many ways, both structural and functional, from all other ganglion cells, a fact which is not surprising when we consider the peculiarities of their origin and of their environment. Whereas all other nerve cells tend to be aggregated in large cell communities, more or less sharply separated off from the tissues in general, those of the sympathetic system are much more isolated, being gathered together only in small heaps, while in many instances single cells maintaining their existence far from all their fellows are completely isolated in the wilds of the body tissues, retaining communication with the centres only by means of their non-medullated axones. Under such circumstances it is perhaps but little wonder that these cells, like the pioneers of the backwoods, should present peculiarities both in habitus and conduct.

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* His, W., Jr., u. E. Romberg. Beiträge zur Herzinnervation. *Fortschr. d. Med.*, 1890, Nos. 10 and 11. His, W., Jr. Demonstration von Präparaten u. Modellen zur Herzinnervation. *Verhandl. d. ix. Congr. f. innere Med.*, 1890. His, W., Jr. Die Entwickelung des Herznervensystems bei Wirbelthieren. *Abh. d. math.-phys. Cl. d. sächs. Ges. d. Wiss.*, xviii, 1893, No. 1.

In the study of the historical development of the nervous system, mechanical factors, of a very simple nature when viewed close at hand, are continually met with. The results of the bending and shaping of the medullary tube in its early stages are apparently comparable in many respects, His thinks, with those which occur in a simple rubber tube when subjected to similar influences. The peripheral nerves in their outgrowth follow always, like blood-vessels in their advance, the channels of least resistance. In regions where there is much bending of the body—for example, in the neck and lumbar region—the nerve trunks converge to form the well-known plexuses.[*] If a bundle of nerves in its outgrowth meet with any obstacle in its path, such as a bar of cartilage, a blood-vessel, or the wall of a cavity, the bundle tends to divide, a portion of the fibres passing on each side of the obstruction. In this way the curious distribution of many peripheral nerves, entirely obscure before these embryological studies, becomes explicable. An instructive example of the light afforded in certain dark corners by histogenetic studies is to be seen in the innervation of the diaphragm.

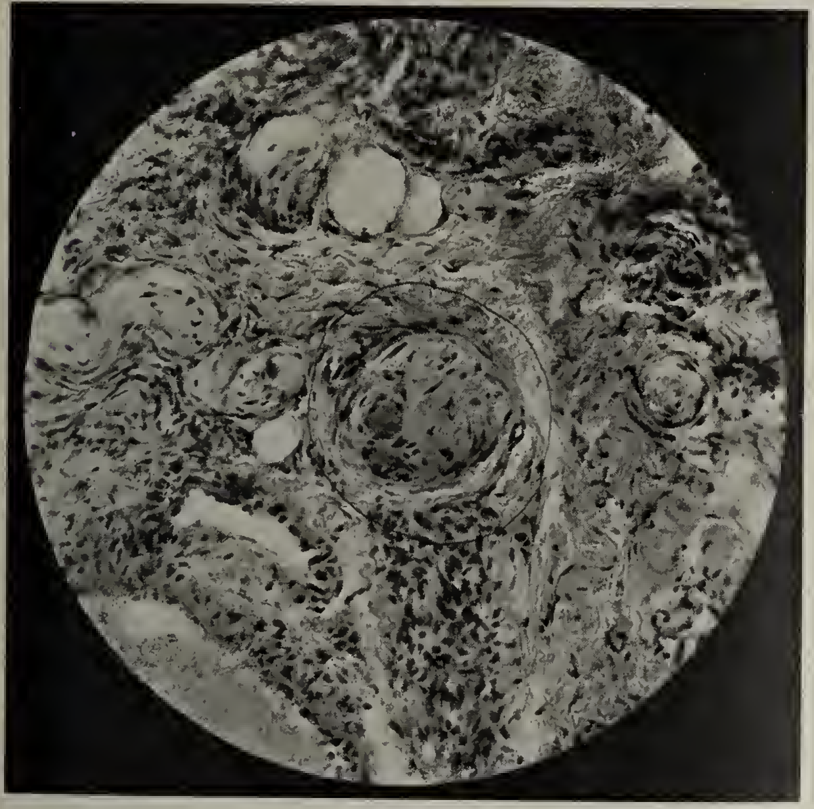

Fig. 87.—Photomicrograph by A. G. Hoen of section through a nerve in the side of the human tongue. Alcohol fixation—hæmatoxylin and eosin. Two sympathetic ganglion cells are visible inside the nerve trunk near its edge.

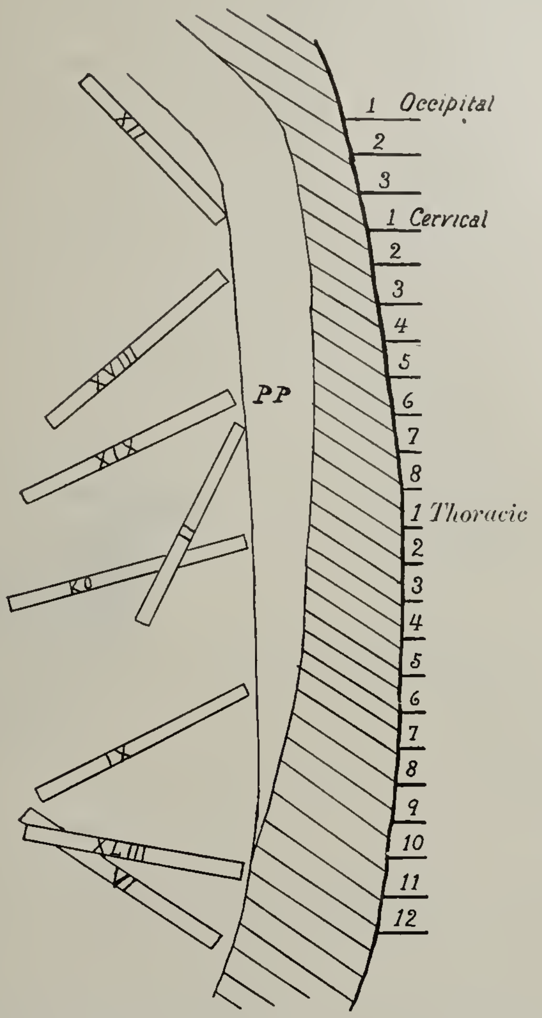

Fig. 88.—Diagram showing successive positions of the diaphragm during the development of the human embryo. (After Mall.)

Von Baer [*] has pointed out that the diaphragm is in mammals developed at first in the neck region and that it descends later. He suggested its cervical origin as an explanation of the well-known fact that it is innervated (in the main at least) by a cervical nerve. Cadiat [†] and His [‡] recognized the mass of tissue which in the embryo is destined to give rise to the diaphragm. Dr. Mall [#] has studied the position of the diaphragm in several reconstructed human embryos, and his researches, taken together with those of Uskow [‖] and Ravn,[△] show most clearly the shifting of the organs and the constantly changing relations accompanying the flexion and extension of the embryo. In Fig. 88 the position occupied by the diaphragm at various developmental stages is clearly shown. The position marked xliii corresponds closely to the position of the diaphragm in the adult; while xii, xviii, xix, ii, KO, and ix represent successive stages of the wandering process during development. When the phrenic nerve grows into the diaphragm the latter is in the cervical region, and the distance from the spinal cord to the muscle to be innervated is minimal. With the descent of the diaphragm the phrenic nerve grows and goes with it, so that in the adult we have an abdominal muscle innervated by a nerve of the neck. The work of His upon the recurrent laryngeal nerve, and of Nussbaum upon the wandering of muscles and their innervation, are of interest in this connection.

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[*] *Cf.* His, W. Ueber den Aufbau unseres Nervensystems. *Berlin. klin. Woch.*, 1893, Nos. 40 and 41.

[*] Von Baer, K. E. *Entwickelungsgeschichte der Thiere*, ii, p. 226.

[†] Cadiat, M. Du développement de la portion céphalo-thoracique de l'embryon. *Jour. de l'anat. et de la physiol.*, xiv, 1878.

[‡] His, W. *Anatomie menschlicher Embryonen*, i, 1880; iii, 1885.

[#] Mall, F. P. Development of the Human Cœlom. *Journal of Morphology*, vol. xii.

[‖] Uskow, N. Ueber die Entwickelung des Zwerchfells, etc. *Arch. f. mikr. Anat.*, xxii, 1883.

[△] Ravn, E. Die Bildung des Saeptum transversum beim Hühnerembryo. *Arch. f. Anat. u. Physiol.*, anat. Abth., 1896.

The most wonderful of all the mechanical factors concerned in the development of the nervous system would seem to be those which, according to the ingenious hypotheses of His, are connected with the marginal veil. It is almost like a fairy tale to be told that the direction of many millions of white fibres within the central nervous system during development depends upon simple obstructions offered at the proper time and in the right degree to the outgrowing processes of the neuroblasts. We have seen the long distances which certain of the axones have to travel from their cells of origin in order to reach the cell bodies and dendrites of the other neurones which they have to influence, some of the axones of the fibres of the pyramidal tract, for instance, having to extend from the gyri centrales to the lumbar region of the spinal cord. We have also noted the manifold metamorphoses passed through in some localities at several periods of development. And when one recalls these distances and complications, even when lessened and simplified by looking through the large end of the telescope of embryology, it seems almost inconceivable that mechanical factors alone should so direct the inherent activities of the growing tissues as to ultimately give rise to adult structures, which when examined with high powers of the microscope in the corresponding parts in two different individuals are scarcely distinguishable. Especially dumfounding is it to be told that the same developmental factors hold in the convolutions of the cerebrum; in that portion of man's nervous system which we believe to be functionally concerned in his mental processes; and particularly when we reflect that both the bodily and mental characteristics of the individual are hereditarily transmissible. As His beautifully puts it (the translation is free): "It is exactly in these last considerations that the key for the correct understanding of the special relations is to be sought. Like every other organic formation process, the origin of one's body and of its nervous system appears as the expression of a life process in course of progress (*im Gang befindlichen Lebensprocess*). The beginning of the process we do not know, for since time immemorial it has been striding forward, periodically producing new individuals and again destroying them. Each individual life is only a participating member of the life of its generation series, comparable to a single one of the waves resulting from the propagation of one wave over wide surfaces of the sea. Advancing from one member to another, the life or the generation passes through phases of the greatest simplicity in order to elevate itself again to summits of the greatest total energy. In those phases of the transference of life from member to member, the mass serving as the bearer of it sinks to a minimum. An imponderable amount of material suffices to carry over the life in a strictly regular way. And while life is a periodical process there is an all-pervading law which commands all its component processes and their internal connection. In such a mechanism one process goes over into another, each appears at a given time as a definite sequence of processes which have gone before, and at the same time as the necessary determinant of processes which shall come after. And even where processes of apparently different origin and significance reciprocally influence one another, yet they all act at the place assigned to them by the general law, and do no more and no less than is ordered."

It is now necessary to hasten on to the consideration of the neurone as the unit in physiological and pathological processes.

(To be continued.)

REPORT OF A CASE OF INTUSSUSCEPTION DUE TO A MECKEL'S DIVERTICULUM;

ALSO REPORTS OF

THREE ADDITIONAL CASES OF DIVERTICULA.*

By JOHN F. ERDMANN, M. D.,
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GOUVERNEUR, ST. MARK'S, AND THE CHILDREN'S (ST. JOHN'S GUILD) HOSPITALS;
PROFESSOR OF PRACTICAL ANATOMY IN BELLEVUE HOSPITAL MEDICAL COLLEGE.

The history of the case of intussusception from which this specimen was obtained is the following:

F., aged nine years, male; was seized at four o'clock in the afternoon on a Friday in August of 1897 with colicky pain in the abdomen, limited to the right side and of rather severe character. During the night he vomited the contents of the stomach and some bile, and passed a large quantity of blood and clot by the bowel. There were marked tenesmus and frequent attempts to have a movement from the bowels throughout the following day, but with no further result than the passing of mucus and blood. His temperature was said to have been normal, while the pulse was slightly increased in number. On Sunday his condition showed all the evidences of severe shock, and upon palpating the abdomen a tumor rather elongated could be mapped out in the right side. In the absence from the city of Dr. Carl Beck the case was referred to me by the family physician. I saw the case at nine o'clock on Sunday night and found the following condition: Countenance anxious, temperature 101°, pulse 128, abdomen distended and tympanitic, painful to touch, and a sausage-shaped tumor extending from the right iliac fossa to the costal cartilage of the tenth rib. I had the patient transferred to St. Mark's Hospital, opened the abdomen at ten o'clock, about fifty-eight hours after the onset of the first symptoms, and found an intussusception of the enteric variety, the apex of which was within six inches of the ileo-cæcal junction.

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* Read before the Society of Alumni of Bellevue Hospital, February 2, 1898.

The mass was irreducible and gangrenous, and the mesentery was gangrenous to within an inch of its attachment to the lumbar column. In addition, the intestines were deeply engorged and a quantity of pus was found in the cavity. Resection of the mass and an end-to-end anastomosis with the Murphy button was performed, the abdomen thoroughly washed out with salt solution, and a gauze pack placed down to the anastomosis. The patient bore the operation very well and reacted well. During the two days following the operation the patient was given sixty cubic centimetres of Marmorek's serum without any evidences of improvement. The condition of sepsis increased, and the patient expired at the end of the fourth day following the operation.

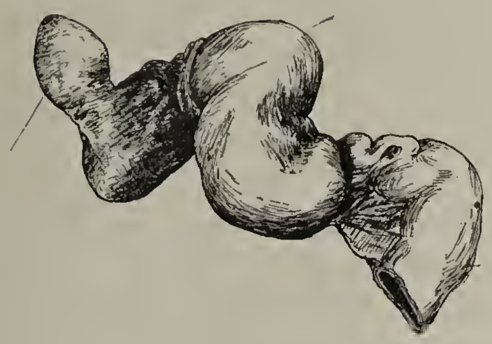
Fig. 1.

Upon examining the specimen a mass about two inches long was seen protruding at the distal extremity (see Fig. 1), which was made out to be a Meckel's diverticulum that had become inverted and evidently was the cause of the intussusception. Upon cutting the specimen open it was found to measure thirty-three inches in length; this extreme length was due to the tight manner in which the intussusceptum was packed in the ensheathing intussuscipiens (see Fig. 2).

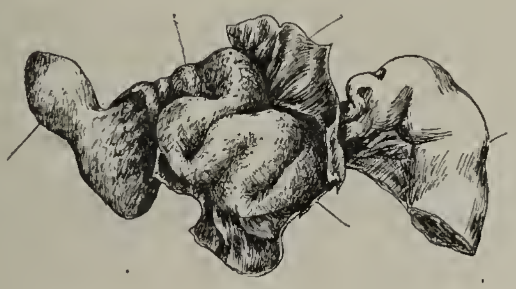
Fig. 2.

In addition to the specimen of Meckel's diverticulum in the case of intussusception, I present two other cases of diverticula found upon operating within three months of the foregoing case, and one specimen found in the anatomy room of Bellevue Hospital Medical College.

Fig. 3 was drawn from the specimen which I show you of multiple (fifteen) perforating wounds of the intestines following a gunshot in an Italian who, while being pursued by an officer, was shot while in a stooping position; the ball, entering the right buttock, passed through the great sacro-sciatic foramen, then traveled up the posterior wall of the true pelvis behind the peritonæum, perforating this structure at the pelvic brim, then perforated the jejunum and ileum and the mesentery fifteen times in a length of twenty-one inches, and lodged under the skin to the right of the umbilicus. Owing to the extensive destruction of gut the entire twenty-one inches were removed. The diverticulum is situated between two perforations and is two inches long and half an inch in diameter.

Fig. 4 was drawn from a specimen that was obtained upon autopsy in the case of a patient operated upon by me for multiple perforations by gunshot involving the stomach and intestines. The diverticulum was discovered at the time of operating, but not interfered with. At the time of the autopsy it measured three inches in length and three quarters in diameter, and was four feet and one inch from the ileo-cæcal junction.

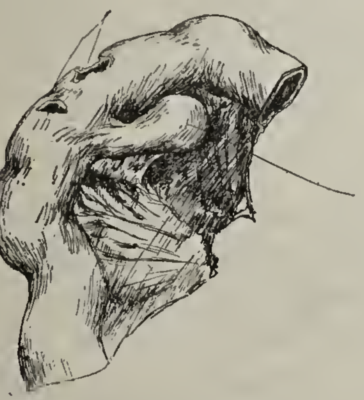
Fig. 3.

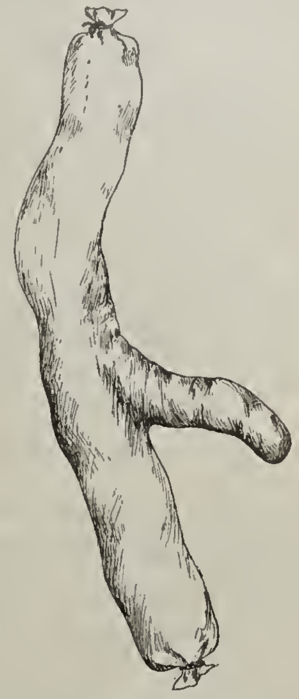
Fig. 4.

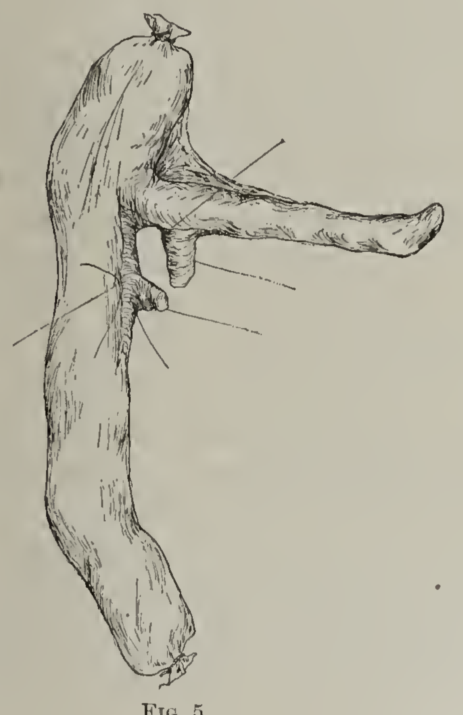
Fig. 5.

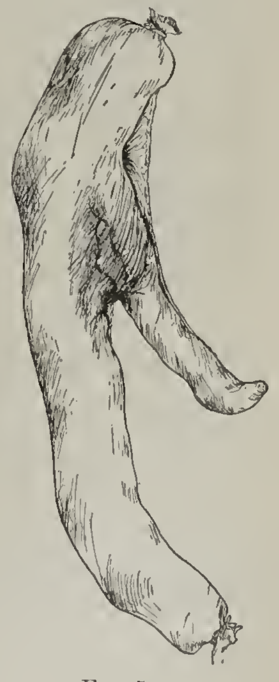
Fig. 5*a*.

Figs. 5 and 5*a* are drawings of a specimen obtained from the cadaver of a man about fifty years of age. Fig. 5*a* represents the specimen as it was when removed. It will be seen that there was a thin coat (peritonæum) extending from the main portion of the diverticulum to and across the intestine, and that upon dissecting through this coat of peritonæum the two projections, as seen in Fig. 5 marked 1 and 2, were found. These projections were made of musculosa and mucosa only. Fig. 5*a* shows these accessory diverticula as they appeared under the coat of peritonæum, No. 1 having been folded upward and No. 2 projecting directly outward toward the main diverticulum, which measured five inches in length and half an inch in diameter. The specimen was situated seventy-nine inches and a half from the ileocæcal junction.

149 West Forty-fourth Street.

WHEN IS SURGICAL INTERFERENCE JUSTIFIABLE IN CEREBRAL DISEASE

(*I. E.*, IN CEREBRAL GROWTHS, ABSCESS, EPILEPSY, MICROCEPHALUS, ETC.)?*

By EDWARD D. FISHER, M. D.

The question of surgical interference in cerebral disease has been before the profession for some time. A few years ago, when it was found that with proper antiseptic precautions the brain and spinal cord could be handled with as little danger as the other organs of the body, it was supposed that a great field had been opened for cure in many cases hitherto regarded as hopeless. Indeed, many operations have been suggested simply on the ground that to do something, even if it was only the opening of the skull, might prove beneficial, so that in general paralysis, idiopathic epilepsy, etc., an operation has often been advised.

The pendulum has swung in the other direction at present.

As an operation had often been done in inappropriate cases, with little if any result, and as also death was not infrequent, either from inefficient methods or from unskilled operators, all operation was deplored. There has always been a true middle course to pursue. In fact, in certain cases a physician is culpable who does not advise surgical interference, even although no positive promise can be made of curative results, and even when only relief can be hoped for. It must always, indeed, be remembered that these operations are capital, and that therefore danger to life is always present. No inexperienced surgeon should undertake them, at least without careful study of the methods and indications. Another side is also always to be remembered, and that is, that life is often prolonged or made more endurable by operation, and this is important enough to take into consideration. I am glad that the conservative view of this operation has been generally accepted, and that men do not so often rush in where angels fear to tread as was formerly the case.

Operations, therefore, for general paralysis, a disease whose pathology shows it to be a widespread inflammation of the membranes and cortex of the brain, should not be undertaken. There is no basis for operation in these cases.

I would not have it understood that I am an earnest advocate for surgical interference in cerebral cases, but this much I would say, that knowing now that the brain can be handled (indeed with caution) without injury to its substance, we should no more hesitate to open into it than we should to open up the abdominal cavity; indeed, there is usually less shock in these cases than in abdominal cases. A certain number of cases, therefore, urgently demand, all other conditions being favorable, immediate operation—such as depression of the skull from fracture; meningeal hæmorrhage, especially traumatic, but not necessarily only these cases. Rarely if ever does intracerebral hæmorrhage indicate it, for from the very condition of things it means that the brain substance itself has been destroyed, and the removal of the blood could not restore the destroyed cerebral substance, and, again, the situation of the blood in the region of the internal capsule is too deeply placed to warrant removal.

The cause of the lack of success in these operations lies mostly in the fact that we are dealing usually with incurable conditions or irremovable complications. For instance, tumors of the brain are only "operable" in a small percentage of cases, say ten per cent., and out of this small number only a possible ten per cent. can be relieved. The explanation of this is, that the growth is often situated so deeply that its removal would cause such extensive ablation of the brain as to cause death; or, again, it is so situated, as at the base of the brain, that it can not be reached.

Accepting all these difficulties, there are certain strong indications for operation. One case which has been saved by operation demands that each case of that nature should have like opportunities of relief. The same may be said of localized epileptic seizures—whether traumatic in origin or not. The knowledge of cerebral topography is so accurate to-day that at least in these cases we know where to look for the lesion, and if one case can be recorded as benefited, although it is known that the majority do not prove successful, it is our duty to operate, provided other means have failed to bring relief.

Some of the special indications for operation are the following, therefore: 1. Fracture of the skull, causing compression with resulting paralysis, epileptic seizures, or coma. This would in no case be objected to, and was the practice long before the days of so-called cerebral surgery. 2. Meningeal hæmorrhages, traumatic or occurring in pachymeningitis hæmorrhagica. 3. Tumors of the brain when situated near the cortex of the brain or even in the cerebellum, but not when deeply situated or at the base. This last statement I would modify by saying that when the tumor is not thought to be a removable one a partial operation may be indicated, as the removal of a large area of the skull often relieves certain marked symptoms of tumor, as vomiting, headache, and convulsions. I have seen beneficial results of that nature in a number of cases in which that was all that could be attempted. 4. Localized epileptic seizures of the so-called Jacksonian type. I would include in this class cases, whether due to injury or arising from unknown causes—that is, so-called idiopathic epilepsy—if limited to special parts of the body, as the arm, leg, or face, or all three if only one side of the body is involved. In such cases I would advise the excision of these cerebral centres. This, indeed, results in paralysis, perhaps a permanent form; but in many of these patients we have already a certain degree of paralysis, and in that case we simply increase a previous disability. 5. The last indication which I shall mention for surgical interference is cerebral abscess, and especially in the form most commonly presented to us—that following otitis media. I will not include under this head operations in microcephalià or in infantile cerebral hemiplegia with epilepsy, although in some cases, owing to the otherwise hopeless character of these conditions, I am in favor of operative interference. It is too large a subject to take up on this occasion.

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* Read before the Society of Alumni of Bellevue Hospital, January 5, 1898.

In conclusion, while not wishing to describe the methods of operation, I would urge that in cerebral operations a large area of the skull be removed. It both enables us to examine the brain better when exposed, and also, if benefit is to be obtained from relief of cerebral pressure, it surely increases that chance, and also it scarcely increases the danger of the operation. The removal of a mere button of bone with the trephine certainly exposes the patient to some danger, and rarely accomplishes much otherwise.

I will now relate in brief the history of a few cases, successful and otherwise, which have been under my care:

A. B., a boy, aged fourteen years, gave a history of a fall from a tree, injuring right side of head, causing some depression of skull. Five years later epileptic attacks ensued, for which a button of bone, somewhat anterior to the motor areas, had been removed without benefit. A large area of bone over the motor area was removed by Dr. George Woolsey. On the lower surface a spiculum of bone was found, which had extended into the hand centre. This was removed and the bone flap replaced, perfect union resulting. This boy was kept under observation and bromide administered. The attacks became less frequent, and when last heard from, three years following the operation, no seizures had taken place for a year, and the bromides had been long discontinued.

A second case was that of a Greek who came under my observation at the University College Dispensary. He gave the history of a blow on the left side of the head. This was followed by a localized convulsion of the right side of the body, commencing with a sensory disturbance—*i. e.*, tingling in the tongue and lips and fingers of that side.

This patient also had had a button of bone removed previous to coming under my care.

Dr. Woolsey removed a large area of the skull over the motor area by the bone-flap operation.

The dura at the site of the previous operation was found thickened and adherent, and was therefore removed. The bone was replaced. The patient was discharged improved and returned to his occupation in a circus. He returned some months later to the hospital and a second operation was performed, removing again a thickened membrane which was adherent to the skull Again improvement followed for a time only.

A third and a fourth operation was performed; in the last one the bone was not replaced, but a cap of celluloid was substituted. The result has finally on the whole been favorable, as the attacks are very infrequent and not severe, the patient being able to carry on his occupation.

There may be occasion for further surgical interference. Apparently no bad results from shock follow the operation. A full report of this case will be made at a later date.

The following case I shall merely refer to as showing how an extensive growth may present very few symptoms, and as interesting also in that apparently the shock of the operation, possibly owing to the size of the tumor, resulted fatally. I will also pass the specimen around.

A. B., laborer, about forty years old, was seen at the clinic of the University Medical College for the first time. He complained only of a slight headache, and said he had convulsions, after which he had some weakness in his hand, and dragged his leg in walking. He said he had been in the Homœopathic Hospital for some months, and there a button of bone had been removed from the skull. He was sent to Bellevue Hospital for observation. Examination showed slight paresis of the right hand and considerable ataxia and exaggerated knee-jerk on the same side. The patient was around the wards for some weeks, and in that time only one convulsion was reported. The eyes on examination gave no evidence of optic neuritis. The headache was never severe.

The operation was badly borne, the pulse from the first being weak.

The skull was removed over the motor area and the large growth became evident. It would have been impossible to remove it entire.

The patient within a few hours succumbed.

This patient showed very few symptoms then or at any time. The absence of paralysis can only be explained by a gradual pressing aside of the fibres, and their thus escaping destruction.

[The author then presented two other tumors and gave brief histories of the cases. No operation was performed, and none was practicable.]

THE RADICAL CURE OF INGUINAL HERNIA.

By G. STANMORE BISHOP, F. R. C. S. Eng.,
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It has often struck the writer that our literature in medical journals is far too disconnected; that it too often merits the description given of Webster's *Dictionary* by the old lady, who took it up for an hour's reading. She declared that it was wonderfully interesting and most instructive, but too disjointed for comfort. And much the same might be said of most of the medical weekly and monthly periodicals. Each man contributes something, but it has little or no relation to what has gone before, unless it is written by some one with the German spirit, and then one is appalled by a stupendous list of references whose very size discourages us from any attempt to do aught but reproduce the same list with a few names added—to show one's own diligence—in the next paper one writes on the same subject. Something short of this would probably induce more interest—if, for instance, we were to refer to and more or less answer a paper which has only lately appeared before professional attention has been quite diverted into other channels.

Acting partly on that, and partly on other motives, I take advantage of the appearance in the columns of the *New York Medical Journal* for October 23, 1897, of a paper by Dr. Swift on this subject, which has come under my notice during the last week, and I propose to treat his paper as if it were that of an introducer of a matter for discussion in the same way as at a medical congress, with the added advantage of more time for consideration before reply, and more space in which to elaborate the points of the question.

Dr. Swift directs his attention mainly to the question of method in operating, and, as though the list he gives were not already long enough, adds another to the number. Its main features are excision of the sac, with three sets of sutures in the musculo-fibrous wall of the abdomen. Specially prepared catgut is used, and the outer wound is closed without drainage. Incidentally, one may regret that no illustrations are used, since all descriptions are liable to misinterpretation without them, and experience proves that by their means a much clearer idea of the author's meaning is gained. The gross result to the reader is an impression that in the author's opinion faulty results, such as relapse, are due to some imperfection in previous operations which the new one will rectify.

But is this so? No doubt many of the old operations, such as those of Wood and Wutzer, were based upon wrong conceptions of the conditions present, and of the best means to rectify them. Besides, the operations were conducted under septic surroundings, and were therefore almost foredoomed to failure; but that can not be said of the later methods, and it is doubtful whether the new one will serve any further purpose than can equally be obtained by Macewen's, Ball's, or Halsted's. Its main difference reminds one of the proud declaration of a certain surgeon who had just performed Wood's operation, after using rather more wire than usual: "There, now, he's as well tuned up as any grand piano!" I notice, however, that no cases are mentioned in Dr. Swift's paper. Can it be possible that he is seriously recommending for our adoption a method which he has never tried upon the living subject, or are the results such as not to encourage him to publish them?

But be that as it may, the main question remains: If relapse occurs, is it due to a faulty method at all? Might it have been averted had the surgeon chosen some other, or is the fault to be sought in quite another direction, the importance of which has been ignored or not sufficiently appreciated? I think that the latter is the true explanation.

Dr. Swift's paper will serve admirably as a sample of the way in which hernia is always written about. If you consult text-books for students, systems of surgery, even monographs, you will always find hernia treated as a whole. In text-books, after defining the meaning of the word, you will usually find it divided, according to its anatomical position, into umbilical, inguinal, femoral, diaphragmatic, obturator, etc., varieties, and as of the same value into acute, strangulated, reducible, irreducible, obstructed, etc.; but when you come to pathology, and, above all, to treatment, all the varieties are lumped together again, and you are invited to look upon hernia as a whole, except that perhaps the anatomical differences are treated as of most importance, since, if you are operating, your cuts must be made in different parts of the body, and different arteries are in danger of division.

I suggest to you that for practical work it does not matter a halfpenny whether you cut these arteries or not—I refer to the deep epigastric artery and branches of the obturator arteries—since by the open method, which all surgeons use, these arteries can be caught in a second and ligatured, and their division will have no effect whatever upon the ultimate result; but it *does* matter whether you operate at all while the cause which produced the hernia originally is still acting or not, if you have the slightest expectation or wish that your work may last.

"While the cause is acting." But all teaching, you will say, and all experience goes to show that hernia is due to a sudden wrench, some overlifting, or strain of some kind. Such things are in their nature temporary, and it is absurd to talk of them as still "acting," when your patient is lying quietly in bed. It would be absurd if that were true, but is it?

I contend that it is not true; that the term hernia covers two distinct conditions, alike in nothing but that they are both extrusions of abdominal contents through the abdominal wall; that they differ in causation, pathology, course, treatment, mortality, and prognosis; that therefore they should be spoken of and written about as separate entities; and conclusions deduced from the results of treatment of the one condition have nothing to say to the treatment of the other. Until this distinction is clearly made, nothing but confusion and foggy ideas can obtain in this matter. The reason of poor results, of relapses, can not be properly appreciated, and our efforts to remove this opprobrium of our art can only end in renewed failure and blind suggestions of some "new method of operating."

The term hernia includes two distinct entities—the one acute in course, high in mortality, involving as a primary pathological change interference with the blood supply of the gut, produced by sudden and violent force from without, requiring immediate surgical interference, wholly exclusive of the patient's fitness or suitability for operation, and placing as the sole aim before the operator the mere saving of life which is in deadly peril. Any after results have practically no importance whatever. I call this acute hernia. It is known as strangulated hernia.

The other differs *toto cœlo* from this. Its course is slow, almost imperceptible; its mortality is almost if not totally *nil*. In it there is never any interference with the *blood* circulation, which is always normal; the interference, if any, is with the *fæcal* circulation. Pathological changes, as a matter of fact, do not centre around the gut at all, as in the first condition, but around the abdominal wall. It is produced only by slow, gentle, continuous, or frequently intermittent force from within, acting for a long time. There is never any immediate urgent need for surgical interference, so that the best time for operation can always be chosen with due deliberation. The aim before the operator is not the saving of life, since the condition is free from mortality, and the operation itself in these days should have none, or hardly any; it is simply and purely the permanence of the result. This I call chronic hernia. It is known as reducible hernia.

Now I ask you to note that it matters nothing as to the anatomical position. All hernias, wherever occurring, are divisible for all purposes into these two varieties. Also, that obstructed, incarcerated, irreducible, are all terms which specify some stage or incident in the course of a chronic hernia. They do not in the true sense of the word mean separate varieties.

When once these two conditions are clearly defined in the mind many things become straightened out. One no longer conceives it one's duty, for instance, as soon as the patient's consent has been obtained, to rush at an operation, if the case falls into the latter variety; and we realize that when we talk of operations for the radical cure of hernia, we are talking of chronic hernia alone, and have nothing whatever to do with acute hernia, its causes, pathology, or prognosis.

Not with its causes. Acute hernia is due to sudden strains, lifting, accidents of various sorts. Such accidents may transform a chronic hernia into an acute one; but they *never produce* a chronic case. That must be clearly understood. The causes of chronic hernia are to be looked for elsewhere. They have produced a slowly increasing projection of abdominal contents through a previously existing opening in the abdominal wall. They have lengthened the mesentery of the bowel, the parietal peritonæum forming the sac, that forming the omentum in many cases. They have produced a slow hypertrophy of these tissues, and they have done all this so quietly that at no period during this work have they in the least interfered with the circulation through the tissues involved, or set up any inflammatory change; except now and then to produce adhesions, usually not extensive, between the contents of the sac and its walls, or a thickening and adhesion of the folds at the neck of the sac. They must of necessity be gentle, though exerting some force, and their action must be more or less continuous, spread over a considerable space of time. What, then, are these causes? They will be anything which increases the intra-abdominal tension for a short but frequently repeated time, long enough to press firmly the abdominal contents against the weakest point in its fibromuscular wall, and, as these or any one of them yield, to follow up the advantage gained at each successive opportunity —not long enough to produce pressure necrosis, or sudden and violent enough to cause interference with the blood supply. So much is evident from the appearance present in every case whenever it may be interrupted by operation. Are there any diseases to which men and women are liable which produce such a force? Certainly: bronchitis; all thoracic or abdominal diseases which produce cough; piles or stricture, which produce straining, the simultaneous contraction of all the abdominal muscles for a short time, and which is frequently repeated. Besides diseases, certain occupations, such as the constant playing of wind instrument, the use of certain tools in forges, for example, will bring about the same efficient factor—the constantly repeated but at no time violent increase in intra-abdominal tension.

Some time since, in order to elucidate this matter, I obtained permission to visit and examine all male persons in various jails and workhouses suffering from hernia, and published a list of them in the *Provincial Medical Journal*, which list I here reproduce, for it is very instructive. Several things in it I conceive are worthy of note.

1. A great number of these patients, thirty-four per cent., gave at once the history of a strain, or overlifting, without any hesitation, but on closer questioning it transpired that in some cases the strain to which they attributed all their trouble had taken place a long time before the date on which they first discovered a swelling. Thus in one, three or four weeks, in another *eight or nine months* elapsed; while a third, who found a rupture in 1872, went as far back as 1869 for its cause, and a fourth dated the cause given—viz., a fall off a scaffold—*twelve years* before the first sign of hernia. It seemed as though these patients had had it so thoroughly drilled into them that some accident *must* have preceded the condition of which they complained that they accused anything that they could by any possibility remember.

2. And, as a natural corollary of this, many could give no reason whatever, since their memories, perhaps, would not carry them so far back.

3. A certain number at once accused coughing as the cause.

4. Some accused the most absurd things. One man was certain that it was the Almighty's punishment for his sins of masturbation in early youth. Another attributed it to the shock of having once drank cold water; another to the pain of an injured hand, etc.

5. That in almost all of these cases cross-examination brought out the fact that about or shortly before the time of the commencement of the hernia they had suffered from some one of the complaints mentioned above —bronchitis, gastric catarrh, piles, stricture, etc.—or had been employed in some such business as above described. It appeared evident that the glib reply we so often hear from patients was not to be relied upon—was, in fact, nothing more than an echo of the prevalent belief.

Now, if this is true, and its truth can easily be verified by any one who will take the necessary trouble, it follows that operation during the persistence of any one of these causes can only result in failure in the one object of this operation, which is, I repeat, the permanence of its result.

Consider the condition of a patient upon whom you have just performed an operation for radical cure. You have made certain solutions in the continuity of the tissues upon which you rely for future support of the abdominal contents. For weeks afterward these tissues are united by (*a*) your sutures, (*b*) organizable lymph thrown out between the various structures, which, *if it is allowed*, will develop into firm fibrous tissue so placed as best to withstand any internal pressure, and in time will give you a permanent result—but it must have time. During the interval you have to depend upon your sutures and freedom from intra-abdominal tension. If "the cause is still acting" you can only rely on your sutures. These will be either absorbable, as catgut or silk, or non-absorbable, as silkworm gut or wire. If the former, they will, about the end of the first week, yield to any force from within. If the latter, they will cut through the tissues until they reach the position of rest, which is pretty much the open condition in which they previously were, unless arrested by the adhesions you are trying to obtain, since in all these operations tension must be exerted upon the musculo-tendinous structures in order to bring them together. If organization of the uniting lymph has not sufficiently progressed before this cutting through occurs, the parts slowly return to their normal—that is, open—position, and intermittent, frequently recurring increases in the abdominal tension will cause the sutures to cut out much more rapidly than they would if this did not occur. Consequently, if you operate while the patient is suffering with a chronic cough, though he may have become so accustomed to it as to regard it as of no importance, in the end a relapse in a shorter or longer time is inevitable from the very nature of things; and any one who has had to do with a new hernia between "piano strings" knows that it is a very much more dangerous thing than the original condition.

New methods of operating are sometimes required. We should all be ready to welcome any distinct advance in our technique, and the introduction of asepsis has made many things possible now that were hopeless before; but it is useless to multiply methods when the main condition of success is ignored.

And, lastly, we learn that when the efficient cause is irremovable, operation must be firmly refused. To operate while it is still acting is mere waste of time and our patient's patience, and is to cast discredit upon an operation which, in suitable cases and under suitable conditions, is almost as certain to succeed.

As the editor of the *New York Medical Journal* informs me that the list of cases is too long for insertion, I may summarize it roughly thus: All the men with hernia in the workhouses and jails in the neighborhood were examined. They numbered ninety-eight. The ages varied from twenty-four years to seventy-five years. The duration of the hernia varied from three months to fifty-three years. The varieties of hernia and their relative numbers were: Diaphragmatic, 1; ventral, 3; left inguinal (15) and left scrotal (4), 19; right inguinal (30) and right scrotal (24), 54; double inguinal, 9; double scrotal, 7; right femoral, 4; left femoral, 1.

One case was a combination of right scrotal with umbilical hernia, another of left femoral with left inguinal.

Of the ninety-eight, forty-three ascribed their condition to lifting heavy weights, though of these, eighteen while believing this, could give no definite occasion on which it had occurred. Two ascribed it to jumping, one to running, one to being wrecked, one to reefing sails, two generally to heavy work, and thirteen to a fall or slip, so that sixty-three attributed their condition to the usually accepted causes.

Of the rest, eighteen had "no idea" as to the cause. "It came of itself." One, a hairdresser, while lathering a man for shaving, felt a sudden cramp in the inguinal region and found a lump there. Another, a prison warder, noticed it first when leaning against the counter in the prison dispensary. Another found it one evening when smoking his pipe in his armchair before going to bed. Seven ascribed it to severe coughing, while one or two had fantastic reasons for it. Masturbation in early life was believed by one to have brought this upon him by way of a judgment. Another "once drank cold water." Another once suffered from a poisoned wound of the hand, and when that was cured it "left the rupture behind."

It is to be noted that in none of the cases where a double hernia was present was any reason forthcoming for the second, although the dates of their respective appearances were widely apart, in one case as much as fifty-two years intervening. Many could not apparently understand that there should be any cause required for the later hernia. They looked upon themselves as wrecked by the first, any further yielding being only what was to be expected. One could fancy that they regarded themselves as so many rubber bladders, of no good whatever after they had once "burst."

But it was equally plain that they considered it necessary to adduce some sort of violence in order, apparently, to justify themselves; and they showed that this had been a matter of grave consideration. Thus, one man, who was exposed to a fall of stone in 1869, found a hernia in 1872, which, of course, was due to that accident. Another man, who discovered his disability in 1871, remembered that he had received a "kench" when stepping off a ladder with a load on his back in 1867, and was clear that the hernia was now accounted for. One or two others had similar gaps between supposed cause and effect, but they were dwarfed by the memory of one man who found a hernia in 1881, and went back twelve years, to 1869, when he fell off a scaffold. For twelve years after this he had been apparently sound and strong, but "it had been working in him," as he said, and at last the result had appeared.

It is also to be noted that these gaps were only discovered on cross-examination, and were never volunteered by the sufferer.

A side light is thrown, by the way, on these cases by one which was seen in the Ancoats Hospital a week ago. A woman of thirty-four years, working in the mill, unmarried, presented herself with a lump in the inguinal canal, tense, elastic, with impulse on coughing, of the size of a walnut. She gave the regulation history of hernia. Six months previously, up to which time she had never seen or felt anything unusual, she and three others were lifting a heavy weight. She felt something crack in her groin, and found the hernia. On operation a cyst of the round ligament was found, distended by serum, and no hernia at all. The cyst was certainly of more than twelve months' growth.

Is it not evident that the patients' statements in this matter have been too readily accepted?

Further and careful examination brought out certain facts.

Of the ninety-one—that is, omitting seven who ascribed their condition directly to severe coughing—thirty-seven had suffered from bronchitis, asthma, or gastric catarrh, producing persistent cough for some months or years before and up to the appearance of the hernia. Twenty-six suffered from stricture of the urethra following old gonorrhœa; nineteen had suffered from piles, rectal stricture, or some similar condition producing persistent rectal straining; two cases were congenital, and two had followed occupations necessitating constant forcible use of the abdominal muscles. Three men were over ninety years of age, and it was almost impossible to obtain any history from them. Two remain where no cause could be found; these may possibly be due to traction *a fronte*, by the development of subperitoneal lipomata, a cause which also would act slowly and imperceptibly. As no operation was performed, and the men are still living, this must remain doubtful. In some cases both cough and stricture were coexistent. The hairdresser referred to above had suffered from chronic cough for twenty years; the prison warder, from urethral stricture for thirty years.

It will, I think, be admitted that this list points to causes which act slowly, gradually, persistently, as the true effective causes of chronic hernia, and justifies the contention that before any operation intended as a radical cure is undertaken it is essential and indispensable, if we are to hope for success, that these causes should be eliminated. Otherwise, the foundation of a relapse is being laid while the patient is recovering from the operation, and while his tissues are in the most soft, plastic, and impressionable condition.

10 St. Ann's Square.

THE COMPARATIVE VALUE OF THE DIAZO REACTION AND THE BLOOD-SERUM TEST IN THE DIAGNOSIS OF TYPHOID FEVER.

*A PRELIMINARY REPORT.**

By J. P. BARBER, M. D.,
MINNEAPOLIS.

A positive clinical diagnosis of typhoid fever is in many cases impossible. Complicating concurrent diseases often so mask the symptoms of this disease as to mislead the most astute diagnostician. Pneumonia, bronchitis, pleurisy, amygdalitis, otitis media, cystitis, peritonitis, and the puerperal state have each been found by me associated with typhoid fever in the beginning of the disease, and in each instance I believe it to have been impossible to have made a positive clinical diagnosis. Abortive and very mild cases are extremely difficult to diagnosticate, and in infants and very young children many cases baffle our skill. It is, then, with extreme interest that we look to the laboratory for assistance.

These two tests, the blood-serum test discovered by Widal, and Ehrlich's or the so-called diazo reaction, promise much. But, I believe, the exact limitation to the usefulness of either test has not yet been defined. Much work by many patient laborers will be necessary to do this, and I have been endeavoring during the present epidemic of typhoid fever in this city to contribute something to that end. I purpose to-night to give you a preliminary report of the work being done.

In comparing these two tests the measure of value of each is, first, its reliability—that is, whether it appears in every case of the disease in question and in no other; second, the date of its first appearance.

There have been 751 serum tests made from 205 of my patients; 156 of these have shown a positive and 49 a negative reaction. In no case in which a positive reaction was found could the diagnosis of typhoid fever be positively excluded, and in no case in which the reaction was absent could a positive clinical diagnosis of typhoid fever have been made. One case in which the diazo reaction was present showed a negative reaction to the serum test on the seventh, tenth, and twentieth days. This was a child nineteen months old. There was no eruption; the spleen was slightly enlarged; the bowels were tender; there had been some diarrhœa and fever for a week when I saw it first. The temperature was then 102° F. at 3 P. M. The fever dropped rather suddenly on the ninth day, being 99° in the afternoon. On the tenth day it reached 100°, and on the twentieth day, the date of the last observation, it was 99°. The mother stated the diarrhœa had ceased and the child had seemed well since my last visit on the tenth day. While these symptoms, re-enforced by the presence of the diazo reaction, would point strongly to mild typhoid infection, I believe it would be rash to say positively that the case was typhoid fever.

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* Read before the Hennepin County, Minnesota, Medical Society, November 1, 1897.

CASE XXIV is cited as possibly affecting the reliability of the serum test. A man, twenty-eight years old, had pneumonia in the left lung two years ago; has been fairly well since; has had headache and backache for a week; has some cough, but no expectoration; temperature, 102° F.; pulse, 70; dullness over base of left lung; tenderness and gurgling on pressure over right iliac region; spleen can not be made out on account of dullness of left lung; no eruption; diazo reaction absent on first examination, present next day, and continued throughout the course of the disease; serum reaction partial on tenth day, present on the twenty-third day, absent on seventh, fifteenth, eighteenth, and twenty-sixth days. The temperature ranged from 102° to 104° for three weeks, then gradually subsided, but did not go below 100° during time of observation. The cough increased, and during the last two weeks considerable mucus was expectorated, which, I regret very much to say, was not examined. The patient began sitting up in the fifth week, and was taken out of the city six weeks after the illness began. I have not seen him since the twenty-sixth day, but learn from relatives that he improved for a time and was able to take outdoor exercise, but became gradually worse again, and died of " consumption " three months after leaving the city. This was probably a case of mixed infection, but it may have been purely tuberculosis.

The diazo reaction was present in 128 of the 156 cases, absent in 9, and no test was made in 19. Of the nine cases in which the reaction was negative, in four only one test was made. Three of these were on the third day and one was on the fifth day. In three, two tests were made—two on the third and seventh days, and one on the fifth and eighth days. One patient was an infant two days old, whose case will be referred to again. In only one case, in which urine was examined from day to day, was the reaction absent. This was a very mild infection.

The reliability of the diazo reaction is much impaired by the fact that it appears in other diseases. I have found it in tuberculosis, measles, scarlet fever, diphtheria, mumps, and erysipelas.

An interesting feature of the serum test, which somewhat impairs its reliability, is the fact that it disappears, or becomes extremely weak, during the course of the disease and reappears again in a day or two. This has occurred in eleven mild cases. The same characteristic has also been noticed with the diazo reaction in cases with mild infection.

As to the date of first appearance:

With the serum test, 4 cases have appeared on the first day, 13 on the second day, 12 on the third day, 25 on the fourth day, 20 on the fifth day, 8 on the sixth day, 22 on the seventh day, 7 on the eighth day, 3 on the ninth day (all had been examined previously), 11 on the tenth day (all but one had been examined previously), 2 on the twelfth day (both had been examined previously), 3 on the fourteenth day (all first examination), 2 on the fifteenth day (both examined previously), 1 on the twenty-first day (absent on sixth and tenth days), 1 on the twenty-third day (absent on twenty-first day), 1 on the twenty-eighth day (first examination), 1 on the twenty-eighth day (absent on twelfth day), 1 on the thirtieth day (first examination), 1 on the thirty-third day (absent on twenty-first and thirtieth days), 1 on the thirty-fifth day (absent on thirtieth day), 1 on the forty-second day (absent on fifth and eleventh days), 1 on the forty-third day (referred to below), 1 on the forty-eighth day (absent on fourth day), 1 on the forty-ninth day (first examination), 1 on the sixtieth day (absent on sixth day), 1 on the seventy-fifth day (absent on third and fifth days), 1 on the one hundred and thirteenth day (absent on seventh day).

One case, in which the reaction was not positive until the forty-third day, had been tested on the eighth, fifteenth, thirtieth, thirty-third, thirty-fifth, thirty-eighth, and forty-first days. Faint grouping was noted on the thirty-third day, and incomplete reaction on the forty-first day.

With the diazo reaction, 1 showed on the first day, 15 on the second day, 21 on the third day, 22 on the fourth day, 18 on the fifth day, 18 on the sixth day, 16 on the seventh day, 6 on the eighth day, 4 on the tenth day (three had been examined previously), 3 on the twelfth day (one had been examined previously), 1 on the thirteenth day (first examination), 1 on the twenty-first day (first examination), 1 on the thirtieth day (first examination), and 1 on the forty-second day (first examination).

It will be seen that the diazo reaction was found for the first time after the eighth day in eleven cases, seven of which had not been examined before the day on which it was found; while the serum reaction made its first appearance after that day in thirty-nine cases, and only seven of these had not been examined previously. Of the twenty-five cases in which the serum test was found first between the eighth and fifteenth days, all but four had been examined before the day on which the reaction appeared.

The diazo reaction appeared first in fifty-one cases, a positive or partial reaction with the serum test was found first in twenty-nine cases, and both appeared on the same day in forty-eight cases.

An interesting feature of these examinations has been the finding of typhoid fever in very young children. Fourteen of my cases have been under two years old and seven under one year.

Of these latter, 2 were ten months, 1 was eight months, 1 was five months, 1 was two months, 1 was seven weeks, 1 was two days.

This last case I beg leave to report fully, as in one particular, I believe, it is unique.

On the 9th of August Mrs. F., about eight months pregnant, was taken rather suddenly with severe abdominal pains and vomiting. The temperature at 4 P. M. was 100°. Finding no evidence of uterine contractions, I attributed the trouble to acute indigestion, as she gave a history of having felt perfectly well up to that time, and of having eaten heartily of indigestible food at dinner the previous day. On the next day the vomiting and abdominal pain continued, bowels constipated, temperature 102° in the afternoon. The blood and urine taken at this time both gave a negative reaction. At 10 P. M. uterine contractions set in, and she was delivered at 3 A. M. of the third day. Temperature at time of delivery, 103°. On the fourth day, *thirty hours after delivery, the serum test was negative*. A positive diazo reaction appeared at this time. The blood gave a positive reaction on the ninth day,* and continued to do so throughout the illness, which was quite severe, lasting some eight weeks.

The infant's blood reacted to the serum test on the second, seventh, fourteenth, thirty-third, fortieth, and seventieth days of its life. The diazo reaction was absent. Tests were made on the eighth, tenth, eleventh, twelfth, fourteenth, and sixteenth days. The baby's temperature was 101° F. on the second day, 99° on the third, 98° on the fourth, 97.5° on the fifth, 97.8° on the sixth, 98° on the seventh, 98° on the eighth, 98° on the ninth. It remained from 98° to 99°, and the child seemed perfectly well until the eighteenth day, when it had an attack of diarrhœa and some fever lasting about a week. Since then the baby has been growing and seemed well. The child had been put to the breast a few times before the blood was tested.

To illustrate the value of these tests in making a diagnosis in unusual manifestations of this disease I beg leave to cite one or two cases.

Arthur C., a child, three years and a half old, had been perfectly well, was bright and playful, ate heartily at the evening meal, and was put to bed as well as usual. At 3 A. M. he awakened the family with a severe convulsion. His temperature, when I saw him half an hour later, was 105° F. The blood and urine taken at 2 P. M. of the same day, eleven hours after the first symptom, both reacted to the tests for typhoid fever, and the clinical symptoms during the course of the disease confirmed the diagnosis. There was another case of typhoid fever in the family at the same time.

James S., a laborer, thirty years of age, not accustomed to drink, celebrated the Fourth of July by becoming profoundly intoxicated. I was sent for next morning in great haste and, on arriving at the house, I was informed that his "back was broken." There was extreme tenderness over the entire lower part of the abdomen and both lumbar regions, but no external evidence of injury. He gave no history of headache, malaise, muscular pains, diarrhœa, or constipation during the previous week. His temperature at 9 A. M. was 99° F. He had passed no urine since he had been brought home the previous evening and could pass none at that time. The next morning he voided about twelve ounces of very dark red urine containing a large amount of blood and many blood casts. This specimen showed the diazo reaction, and the blood taken at the same time showed positive typhoid reaction. The fever ran a mild course, ranging from 100° to 102° for two weeks, and from 98° to 100° during the third week. The urine on the twentieth day, the date of the last examination, contained no blood-cells, no casts, and only a trace of albumin.

Mrs. J., aged thirty-one years; married ten years; had one child nine years ago, and never conceived since. Has had chronic uterine disease, but never any acute trouble or very severe pain. She was attacked with vomiting and severe pain in the lower part of the abdomen on the right side. Bowels constipated; temperature, 99°. There was no swelling, or dullness, or particular tenderness in the region of the appendix. The focus seemed in the region of the right ovary. The uterus was partially fixed. The right side was more tense and sensitive than the left, but no tumor could be made out. It was supposed we were dealing with a beginning peritonitis of right tubal origin. The condition became rapidly worse. The temperature went up to 103° on the third day. The vomiting became stercorous. Abdomen very much distended. The urine showed the diazo reaction on the third day, and the serum reaction appeared on the fifth day. The bowels were opened for the first time on the sixth day, and the peritonitis rapidly subsided. Enlargement of the spleen was found after the tympanites subsided, and rose-colored spots appeared about the tenth day. The disease ran an uneventful course followed by relapse.

Four of my cases which have shown reactions with both tests have been of the abortive type spoken of by some authors.* They began with marked symptoms of typhoid fever, temperature from 102° to 104° F., tenderness of the bowels, and some enlargement of the spleen. From the fifth to the eighth day the fever disappeared rather suddenly, and the temperature remained at or about normal, the patient feeling almost as well as before the disease began.

All the cases in this report have been seen in private practice. The patient's statement has been taken as to the beginning of the disease and the date reckoned from the appearance of the first symptom.

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* A specimen taken on the sixth day was lost in transit.

* Osler. *Practice of Medicine*, p. 28.

No specimens of blood have been examined from supposedly healthy persons. I believe experiments of that kind in this city at the present time to be absolutely worthless. This, and the question as to whether the reaction appears in other diseases, must necessarily be solved in regions free from typhoid infection.

The blood tests were made at the laboratory of the Minnesota State Board of Health, and were included in the reports of Dr. Wesbrook and Dr. Wilson at Montreal [*] and Philadelphia.[†]

The dried-blood method of Dr. Wyatt Johnston with dilution of about one to twenty-five was used in the greater number of cases. Dr. Wilson's method of collecting the blood on aluminum foil, drying and weighing it,[‡] has been used during the past five or six weeks.

Dr. Greene's [#] modification of Ehrlich's test was used, and no reaction accepted unless a pink or rose color was obtained on dilution with five to ten parts of water after the test was made.

To sum up: The serum test has proved the more reliable, it having appeared in every case but one. So far as my experience goes, it has appeared in no other disease.

The diazo reaction has the advantage of having appeared earlier in the disease in nearly twice the number of cases. In almost every case in which the serum reaction appeared first the diazo reaction was present on the following day, while in many cases the serum reaction was absent for several days after the diazo reaction was found.

Ehrlich's test is by far the better for the general practitioner. No expensive laboratory apparatus is required. It is easily and quickly made, and with a little experience the reaction can be detected in nearly every case. The diagnosis should always be confirmed by the presence of the serum reaction.

A CASE OF ABDOMINAL, OR VENTRAL, GESTATION.

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The subject of this case was a large and well-formed woman, with very much adipose development. She was forty years of age and had been pregnant to term once, eight years before; her labor was hard and her child—a large female—stillborn. She enjoyed good health, and the time of her second conception was not certain, inasmuch as it was her habit to have no menstrual show for two or three months at a time. She felt the child move, which might have occurred at the usual time of quickening, and then dated her condition from the time of her last menstruation. She had no morning sickness and no catamenia. The mammary sympathies were excited. She was a large and fat woman, and her condition, visibly, was little in evidence. There was no noticeable unilateral enlargement of the abdomen. She appeared to be fuller exactly in the middle of the abdomen, if at any place. The movements of the child were described by her as being *nearer to her—the sensation of more immediate contact with her*—than she felt with the movements of her first child. She also said that when the child moved it appeared to her to be *freer in its movements,* and that it felt to her as if it were in a sac of water, she experiencing a wave sensation during its movements.

She went into labor at 6 P. M. on June 1, 1897 (considering herself six weeks past the term of utero-gestation), her family physician with her. He considered her condition natural, and discovered nothing to direct his attention to her real condition. Her trouble augmented; her labor was tardy; the pains, seemingly natural at first, were ineffectual, though yet apparently sufficiently strong. At 3 A. M., June 2d, another physician of long and successful obstetrical experience was summoned. The result of this consultation did not advance the labor. The pains began to fail and the patient grew very restless. Two hours later I was called. The pains had now almost ceased and would not come on. I examined her carefully to determine the size of the diameters if possible. The head had advanced till a left occipito-posterior presentation could be determined, but there it remained. All the means usually employed for urging the uterus to successful effort were employed, but no response elicited. Introduction of the hand or of a Barnes bag into the vagina would promptly produce pains of a straining sort, and deep inspirations followed by abdominal effort was her only imitation of true labor. Her restlessness increased; she became very anxious for relief, still complaining, as from the first, of pain in her left side in the region of the spleen.

She was becoming apprehensive, too, and fearful as to her successful delivery, and heroically responded with all her ability to every call of her professional attendants. Her suffering increased, especially the pain in her left side, till she urged her physicians to administer chloroform. As she was becoming exhausted, and as the pains were now entirely absent, except when she voluntarily made a straining effort with the diaphragm and muscles of the abdomen, it was determined to administer a hypodermic of morphine and allow her a period of rest, hoping that with her returning strength Nature would bring some suggestion for her relief.

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[*] Wilson and Wesbrook. *Preliminary Report on Serum Diagnosis of Typhoid Fever, etc.* British Medical Association, Montreal, September 2, 1897.

[†] Wesbrook and Wilson. *Serum Diagnosis of Typhoid Fever from the Public Health Laboratory Point of View.* American Public Health Association, Philadelphia, October 26, 1897.

[‡] Wesbrook and Wilson. *Loc. cit.*

[#] *Journal of the American Medical Association*, February, 1894.

Disappointment followed our hopes, and turning, with diminishing confidence each time, to remedy after remedy and one practical recommendation after another, an effort was made to deliver with the forceps. The child still being alive, none of the medical attendants could engage the forceps. After repeated failures to bring our patient relief we summoned two more physicians. All of their suggestions had been previously tried in vain. They urged another trial of the forceps, and this time the head had come down sufficiently to enable us to succeed. Our patient was rapidly failing, however, and expired with the delivery of the head.

I completed the delivery and introduced my hand, following the cord, to extract the placenta. I noticed in following the cord that my hand was introduced unusually far. I felt a tumor between my hand and the abdominal wall, which I determined to be the uterus. My hand was in the abdominal cavity and for the first time, eighteen hours after I had first seen the patient, I learned the cause of her weak pains. I recited the condition found to all the four physicians present, and urged permission for an autopsy, which was granted.

I immediately made a long incision in the median line of the abdomen, and found a thin sac apparently strongly attached to the left postero-lateral aspect of the uterus and upper part of vagina, reaching across the recto-uterine pouch to the anterior surface of the rectum, but not adherent to it. From the top of this sac the cord appeared and reached to the placenta, which was attached to the postero-lateral aspect of the abdominal wall on the left side high up. Douglas's *cul-de-sac* appeared to be much enlarged, a great space existing between the uterus and rectum, in which, and in the sac, the child's head had rested. The vagina and uterus were lacerated vertically enough to permit the passage of the child. The first physician in attendance thought he felt the dilated os when he examined *per vaginam*. This was evidently the beginning rent in the uterus and vagina.

I should call this a case of true ventral gestation, though it may have originally belonged to the interstitial species. Numerous cases are on record where an effort is made to get rid of a fœtus, dead in the body, by absorption; by partitioning it off from the rest of the economy; by changes of mummification; by abscesses and artificial openings through the abdominal walls, the rectum, colon, vagina, or bladder; but in this case Nature began at an early date, before the death of the child, to get rid of it through the utero-vaginal fissure. It may be that the position of the head, exerting pressure so long on the parts mentioned, thinned and weakened them till they gave way. Had the child been in some other locality within the abdomen outside of the uterus, it might have died and been provided for by one of the means recited above.

The conditions in this case could have been discovered by careful examination made early in gestation, when Allen's method might have given favorable results, as it did in the hands of Professor Lusk, Dr. McBurney, Dr. Lovering, and others. Or the methods of puncture of the sac, laparo-elytrotomy, and injections into the sac of solutions to kill the fœtus, might have been employed.

The successful cases of Mr. Jessop, of Leeds, England, and Professor Martin, of Berlin, Germany, lead one to hope that, had the child been delivered spontaneously, by the forceps, or by craniotomy and evisceration, the mother would have had a chance to survive, drainage being maintained *per vaginam* till the placental separation was completed and the subsequent discharges ceased.

619 Sunnyside Avenue.

Therapeutical Notes.

The Treatment of Boils.—Burlureaux (cited in the *Indépendance médicale* for March 23d) incises the furuncle, removes the core, and fills the cavity with a powder composed as follows:

℞ Quick lime, Sodium carbonate, Alum,	equal parts.

M. This is said to kill the pathogenic micrococci and to produce rapid healing.

Peronin in the Treatment of Cough.—Eberson (*Therapeutische Monatshefte*, November, 1897; *Wiener klinische Rundschau*, March 20, 1898) describes peronin as a light, dirty-white, fine, odorless, bitter powder. He gives it to adults in doses of from fifteen to thirty one-hundredths of a grain, three or four times a day; to children, in doses of fifteen one-thousandths of a grain for each year of their age. To disguise its bitter taste, it may be given in syrup or in the form of oblates. He has used it in bronchitis, tuberculous pulmonary disease, and whooping-cough. In the last-named affection he employs the following formula:

℞ Decoction of althæa	1,350 grains;
Merck's peronin	1⅕ grain;
Syrup of althæa, enough to make	1,500 grains.

M. S.: Three coffeespoonfuls daily for a child four years old.

Oil of Wintergreen in the Treatment of Metritis.—Jouin, says the *Indépendance médicale* for November 17, 1897, applies oil of wintergreen to the vagina and the cervix uteri in cases of metritis or gonorrhœa. He says that the oil, becoming volatilized, penetrates glandular *culs-de-sac* and thus reaches all the gonococci.

Audhoui's Antigalactic Pills. — According to the *Journal de médecine de Paris* for March 20th, the formula for these pills is as follows:

℞ Porphyrized iron filings, Powdered torrefied sponge,	each, 37 grains;
Cape aloes	60 "
Extract of absinthium	a sufficiency.

M. Divide into ninety pills. From three to nine to be taken daily, with the meals.

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"HUSA" AS A REMEDY FOR THE OPIUM HABIT.

THE February number of the *Texas Courier-Record of Medicine* opens with a remarkable account, by Dr. W. W. Winthrop, of Fort Worth, of his experience with an unclassified plant which he thinks may be indigenous to the everglades of Florida, one known by the name of "husa." He first observed its use in connection with that of the arrow-leaved violet, *Viola hastata,* a plant that is found growing from Canada to Florida and westward to Arkansas.

Dr. Winthrop says that when he was living in Florida he often saw strange things done with snakes. He mentions a negro who was visiting the towns on the Indian River, giving exhibitions with two immense, terrible-looking rattlesnakes. He would irritate the snakes and allow them to bite him in any part of his person indicated by anybody who was willing to pay twenty-five cents to "see the show." Dr. Winthrop declares that the snakes had their fangs, which must have been "about three inches long." Furthermore, the negro would allow himself to be bitten by any snake that a person might catch and bring to him. Dr. Winthrop saw him bitten several times by moccasins that had just been caught. After each bite the negro would take a mouthful of some herbs which he carried in a little bag, maintaining that the herbs counteracted the venom. "He had none of the herbs for sale, the 'whole show' consisting of seeing the snakes bite." By the judicious use of money and whisky Dr. Winthrop succeeded in worming out of the negro this information: "Boss, de is viellies an' huser, an' I gets 'em from de Semmes in de dales."

"Semmes in de dales" evidently meant the Seminole Indians of the everglades, and to them the author betook himself for information. "But," he says, "though I used every means I could think of to get information about their remedies for snake-bite, I could elicit nothing from the Indians, men or women; neither the young men and boys, with whom I hunted day and night, could I induce to speak, though every one of them knew what I wanted. I was a stranger to them and that was enough. These Indians will not give a stranger information about anything; they must know who and what he is first." Just as he was about to give up disheartened, the author fell in with a Scotch physician who was botanizing in the everglades. This gentleman interpreted "viellies" as meaning "the spear-eared violet—*Viola sagitata*"—and "huser" as denoting an unclassified plant variously called "husa," "hoosa," "yousa," and "yusee" in Florida.

Dr. Winthrop states that *Viola sagitata* has long been known as possessing properties antidotal to snake poison. He gives the following account of "husa": "It is an unclassified plant of a dirty whitish-green color, about two or three inches long. It has at its summit a ball-like white formation. Where the flower should be, this is hard, slightly lobulated, and is to all appearances like a small cauliflower. It grows in clumps in moist, shady places, particularly on the hammocks at the roots of the cabbage palms. It is of a low order of plants, above the mosses; it is, I believe, a cryptogam. It is possibly indigenous to the everglades, for I hunted for it in vain in many large hammocks in Florida. From Dr. McGregor I learned that it is a perfect antidote for all snake-bites, stings of insects, etc.; also an antidote for narcotic poisons. It is the most diffusible stimulant known, acting immediately."

Dr. Winthrop states that he has subjected the plant to various tests, and has found it an infallible cure for the opium habit. He says: "It takes the place of opium or morphine. Supporting the patient fully, it is sedative but not narcotic. It produces slight elation, but no somnolent effect. To use the illustration of one physician who cured himself of the opium habit with it, a habit of twenty-three years' standing," one who was using forty grains of morphine sulphate daily, "'It makes a man feel just as easy and comfortable as one feels after a satisfying meal.' As soon as I learned its properties I sent some of the husa plant to several doctors I knew who used morphine; they one and all pronounced it 'a perfect success.' I have never known of a failure when the patient wanted to be cured. In the hands of a careful physician, this remedy will be found efficient in the worst cases of drug addiction."

It is to be hoped that the botanists will give us some information about "husa," and that its medicinal virtues may be inquired into systematically.

THE PROSPECT OF A NEW MEDICAL SCHOOL IN NEW YORK.

SOME months ago we took occasion to lament the fact that promising negotiations having for their object the consolidation of the New York University Medical School and the Bellevue Hospital Medical College had fallen through. But it seems that that is not the worst of it. It has been rumored for some time past that there was dissension between the university authorities and the faculty, or at least a large portion of it, of the medical school. Now the fact is openly announced, and it is stated that probably a majority of the members of the medical faculty, including a number of the best men in it, will resign. It is expected that these gentlemen will organize a new school, either on an independent footing like that of the Bellevue Hospital Medical College or as the medical department of one of the State universities. Cornell University is mentioned as willing to set up a medical school in New York and as the organization with which the new medical school would be most ready to be incorporated.

For more than half a century the school which now constitutes the medical department of the New York University was known officially as the Medical Department of the University of the City of New York, with which university it had little more than a nominal connection. It managed its own affairs in the main if not entirely. Its fortunes fluctuated, but on the whole it was prosperous. At one time and another it had on its faculty men that had helped largely to build up the character and renown of American medicine, and many others that have borne a notable part in maintaining that character and that renown hold its diploma, or did hold it to the end of their days. Recently it became more closely connected with the university with which before it had had only an affiliation. The name of the University of the City of New York was changed to the less cumbrous one of New York University, and the institution departed from its picturesque but rickety quarters on Washington Square, to be housed more becomingly in a commanding region beyond the Harlem River. With the change in the name of the university that of the medical school became simplified into the New York University Medical School, as it had long been called colloquially.

Concentration in educational work is getting to be recognized more and more as conducive to efficiency, if not, indeed, essential to it. On this account the failure of the University Medical School and the Bellevue Hospital Medical College to consummate their scheme of amalgamation has been deeply regretted by the New York profession. Such a consolidation would have reduced the number of our great schools to two; instead of that we are now likely to have four, and our regret is correspondingly aggravated. Still, we may find comfort in the reflection that a multiplication of schools can not now do the harm that it would have been almost sure to do a few years ago, when the diploma of any legally incorporated medical school was a license to practise and when competition would almost infallibly have led to a detrimental lowering of the requirements for the degree. Harm will still result, no doubt, but it will be to the schools themselves, not to the products they turn out, for now the State examination must be passed by every new aspirant for the license to practise in the State of New York, no matter what diploma he holds, and the school that fails conspicuously to fit its graduates to pass that examination will fail to justify its existence and will have to go to the wall.

MINOR PARAGRAPHS.

A NEW NUMBER OF THE SQUIBBS' *EPHEMERIS.*

The first number of the fifth volume of the *Ephemeris of Materia Medica, Pharmacy, Therapeutics, and Collateral Information,* edited by Dr. Edward R. Squibb, Dr. Edward H. Squibb, and Mr. Charles F. Squibb, dated January, 1898, has recently reached us. It contains rather more matter than usual, and the character of its contents is quite up to the high plane of all the Squibbs' work.

A PROSPECT OF A MEDICAL MAN FOR MAYOR OF PHILADELPHIA

The *Kansas Medical Journal* for March 26th mentions a recent statement by a correspondent of the *Medical News* to the effect that Dr. William Pepper is likely to be presented as a candidate for the mayoralty of Philadelphia. Like our Kansas contemporary, we hope the statement may prove to be correct and that Dr. Pepper will be elected.

THE NEW YORK LYING-IN HOSPITAL.

A "professional vaudeville entertainment" in aid of the New York Lying-in Hospital is announced as to be given at the Waldorf-Astoria Hotel on Monday evening, April 25th. We hope the hospital will profit largely by the proceeds of the show, but we regret that it has stooped to the device of sending round batches of tickets to be disposed of or returned. This practice ought to be stopped. It is annoying and insufferable.

A NEW BALTIMORE MEDICAL JOURNAL.

We have received the first number, dated April, 1898, of the *Journal of the Alumni Association of the College of Physicians and Surgeons, Baltimore.* It contains thirty-two large octavo pages of reading matter and makes a handsome appearance. It is edited by Dr. William S. Gardner. We see nothing in the number to indicate whether the journal is a monthly or a quarterly.

ANGINA PECTORIS FOLLOWING INFLAMMATION OF THE TONSILS.

Zilgien (*Revue médicale de l'Est,* October 15, 1897; *Deutsche Medizinal-Zeitung,* March 17, 1898) records four cases of angina pectoris of several weeks' duration following febrile inflammation of the tonsils. He thinks the trouble was a neuralgia of the cardiac plexus occasioned by toxic materials formed in the tonsils.

"ANUSOL."

"BEI Hämorrhoidal-Leiden," says the *Deutsche Medizinal-Zeitung* for March 31st, "empfiehlt Altschul-Prag als günstig wirkendes Unterstützungsmittel Anusol-Zäpfchen." We wonder if "Anusol" is a printer's error, or if synthetical chemistry has really turned out such a product, or if our ordinarily sober contemporary is joking.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 12, 1898:

DISEASES.	Week ending Apr. 5.		Week ending Apr. 12.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	9	4	7	2
Scarlet fever	132	18	158	13
Cerebro-spinal meningitis	1	0	0	0
Measles	402	5	316	8
Diphtheria	169	23	151	22
Croup	13	5	13	4
Tuberculosis	183	126	144	131

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox and cholera were received in the office of the supervising surgeon general during the week ending April 8, 1898:

Small-pox—United States.

Hurricane Bayou, Ala.	March 27–April 1	5 cases.
Mobile, Ala.	March 27–April 1	3 "
Washington, D. C	April 2	1 case.
New Orleans, La.	March 26–April 2	2 cases.
Ionia, Mich	April 2	Small-pox reported.
Bristol, Tenn.	March 1–31	1 case.
Chattanooga, Tenn.	March 1–31	12 cases.
Elk Valley, Tenn	March 1–31	1 case.
Jellico, Tenn.	March 1–31	1 "
Johnson City, Tenn.	March 1–31	2 cases.
Knoxville, Tenn.	March 1–31	17 "
Mingo, Tenn.	March 1–31	1 case.
Morristown, Tenn.	March 1–31	5 cases.
Rockford, Tenn	March 1–31	1 case.
Rutledge, Tenn.	March 1–31	11 cases.
Shield's Ferry, Tenn	March 1–31	4 "
Sprowles, Tenn.	March 1–31	1 case.

Small-pox—Foreign.

Prague, Bohemia.	March 12–19	6 cases.	
Hong Kong, China	Feb. 12–19	38 "	18 deaths.
Cienfuegos, Cuba.	March 20–27		2 deaths.
Sagua la Grande, Cuba.	March 12–26	146 "	12 "
London, England.	March 5–12	1 case.	
Sunderland, England.	March 12–19	1 "	
Calcutta, India	Feb 12–19		2 "
Madras, India	Feb. 19–March 4		12 "
Christiania, Norway.	March 12–19	14 cases.	
Odessa, Russia	March 5–19	9 "	2 "
St. Petersburg, Russia	March 5–19	13 "	3 "
Warsaw, Russia	March 5–12		7 deaths.

Cholera—Foreign.

Calcutta, India.	Feb. 12–19	21 deaths.
Madras, India	Feb. 19–March 4	11 "

The Health Report of Philadelphia for the Year 1897.—Mayor Charles F. Warwick has recently completed his report for the year 1897. The part of the report which most interests medical men is found under the heads of Bureau of Health, Municipal Hospital, and Water Bureau. The report shows that the general health of the city was unusually good, the death-rate being 18.72 to 1,000, the lowest for thirteen years. Scarlet fever and diphtheria showed a slight increase in the percentage over the previous year. No case of small-pox had occurred since October, 1895. The overflow of the intercepting sewer near Manayunk, on November 16th, was the cause of an increase in the number of cases of typhoid fever. There were 2,994 cases reported, an increase of 504 over those for 1896. The number of deaths was 401, one less than for the year 1896. The mayor condemns the unhealthful condition of the Municipal Hospital and tells of the close proximity of the dining room to a double row of water closets. The present capacity of the Municipal Hospital is insufficient to accommodate all the patients, and plans are under consideration for its extension. Patients with scarlet fever and those with measles are put in the same ward. Many of the neighbors look upon the building as a sort of pest-house, and this has caused an unsettled feeling relative to its increase in size. The mayor is authority for the statement that "so far as this institution is concerned, it has never been shown that the health of the immediate neighborhood has in any wise been affected by its presence." The mayor has always been an ardent supporter of a system of filtration, and now, since the hornet's nest in the city council has been stirred up, possibly the city will get it.

The Municipal Civil Service Commission.—An examination for the place of medical examiner in the municipal civil service commission will be held on April 20th at 10 A. M. The examination will consist of a paper on medical knowledge and another calling for the practical experience of the candidates. Application blanks and information may be obtained at the office of the commission in the new Criminal Court Building, at Centre and Franklin Streets.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 9th inst., Dr. C. H. Hughes was to read a paper on Medical Skill and Medical Compenastion.

The Association of the Alumni of the New York Hospital will hold its annual meeting at the University Club on Friday evening, April 22d. The following-named gentlemen have been nominated for officers for the ensuing year: Dr. A. Brayton Ball, for president; Dr. Andrew J. McCosh, for vice-president; Dr. James Pedersen, for treasurer; Dr. Vanderpoel Adriance, for secretary; and Dr. Carter S. Cole and Dr. Lewis A. Conner for members of the executive committee. The annual dinner will be held immediately after the meeting.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Medicine, on Tuesday, April 12th, the programme for the evening was as follows: State Aid for the Incipient Consumptive, by Dr. J. H. Pryor; and Myocardial Changes: Early Diagnosis and Prevention of Further Development, by Dr. H. C. Buswell.

The Jefferson Medical College, Philadelphia.—The late Dr. Theophilus Parvin's chair of gynæcology, obstetrics, and diseases of children has been divided. Dr. E. E. Montgomery becomes the professor of gynæcology, and Dr. E. P. Davis professor of obstetrics and diseases of children.

The Richmond Academy of Medicine and Surgery.—At the last regular meeting, on Tuesday evening, the 12th inst., Dr. O. F. Blankingship was to open a discussion on Tuberculous Peritonitis and Salpingitis.

The State Board of Medical Examiners of Pennsylvania.—The next regular meetings of the board will be held in Philadelphia and Pittsburgh at 2 o'clock on June 14th. The Philadelphia physicians who are on the board are Dr. S. W. Latta, Dr. H. A. Hulshizer, and Dr. Henry Beates.

The Society of Medical Jurisprudence.—At the one hundred and thirty-fourth regular meeting, on Monday evening, the 11th inst., Dr. E. C. Spitzka was to read a paper entitled The Legal Disabilities of Natural Children Justified Biologically and Historically.

The Death of Dr. Charles West, of London, the well-known writer on children's diseases, is announced in the *British Medical Journal* as having taken place the 19th of March. He was eighty-one years old.

Changes of Address.—Dr. Nicholas R. Dann, to No. 214 Second Avenue, New York; Dr. James P. Glynn, to No. 395 Ninth Street, Brooklyn; Dr. Walter S. Reynolds, to No. 78 West Ninety-fourth Street, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 3 to April 10, 1898:*

ASHFORD, BAILEY K., First Lieutenant and Assistant Surgeon. The order assigning him to station at Fort Sam Houston, Texas, is revoked, and he is ordered to Fort St. Philip, Louisiana, for duty at that post.

CLARKE, JOSEPH T., Captain and Assistant Surgeon, is relieved from duty at Columbus Barracks, Ohio, and ordered to Madison Barracks, New York, for duty, relieving SHILLOCK, PAUL, Captain and Assistant Surgeon. Captain Shillock, on being thus relieved, will proceed to Key West, Florida, and report to the commanding officer, Twenty-fifth Infantry, for duty with that regiment.

EVERTS, EDWARD, Captain and Assistant Surgeon, is ordered to Fort Apache, Arizona, upon the abandonment of Whipple Barracks, Arizona.

MCELDERRY, HENRY, Major and Surgeon, is granted leave of absence for four months on surgeon's certificate of disability, to date from his arrival at the Army and Navy General Hospital, Hot Springs, Arkansas.

PORTER, ALEXANDER S., First Lieutenant and Assistant Surgeon, is relieved from duty at Whipple Barracks, Arizona, and, upon expiration of his present leave of absence, is ordered to San Diego Barracks, California, for duty.

RAUCHFUSS, GEORGE, First Lieutenant and Assistant Surgeon. The order assigning him to Fort Apache, Arizona, is revoked.

SHILLOCK, PAUL, Captain and Assistant Surgeon. So much of the order as directs him to Key West, Florida, and report to the commanding officer, Twenty-fifth Infantry, is amended so as to direct him to proceed to Chickamauga National Park and report to the commanding officer of that regiment for duty with the first detachment thereof that may proceed to take station at Fort Jefferson, Florida.

WINTER, FRANCIS A., Captain and Assistant Surgeon, is relieved from duty at the United States Military Academy, West Point, N. Y., and ordered to Jefferson Barracks, Missouri, for duty at that post.

RAUCHFUSS, GEORGE, First Lieutenant and Assistant Surgeon, resigned April 2, 1898.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Fourteen Days ending April 7, 1898:*

MURRAY, R. D., Surgeon. To represent service at Quarantine Conference at Atlanta, Ga., April 12, 1898. April 7, 1898.

AUSTIN, H. W., Surgeon. Detailed for temporary duty in bureau. April 1, 1898.

MEAD, F. W., Surgeon. Granted leave of absence for seven days. March 30, 1898.

CARTER, H. R., Surgeon. To rejoin station at New Orleans, La. March 31, 1898. To represent service at Quarantine Conferences at New Orleans, La., April 8, 1898, and Atlanta, Ga., April 12, 1898. April 5, 1898.

PECKHAM, C. T., Passed Assistant Surgeon. Granted leave of absence for twenty-nine days. March 30, 1898.

WHITE, J. H., Passed Assistant Surgeon. To rejoin station at New York. March 31, 1898.

GEDDINGS, H. D., Passed Assistant Surgeon. To proceed to Tortugas Quarantine and report to medical officer in command for temporary duty. April 2, 1898.

WERTENBAKER, C. P. When relieved by Assistant Surgeon HILL HASTINGS, to rejoin station at Wilmington, N. C. April 2, 1898.

YOUNG, G. B., Passed Assistant Surgeon. To rejoin station at Delaware Breakwater Quarantine. March 31, 1898.

OAKLEY, J. H., Passed Assistant Surgeon. Upon expiration of leave of absence, to proceed to Evansville, Ind., and assume command of service. March 29, 1898.

NORMAN, SEATON, Assistant Surgeon. Granted leave of absence for four days. March 29, 1898.

TABB, S. R., Assistant Surgeon. Granted leave of absence for seven days, and upon expiration thereof to proceed to Savannah, Ga., and assume command of service. March 29, 1898.

MATHEWSON, H. S., Assistant Surgeon. Granted leave of absence for one month from April 15, 1898. March 30, 1898.

JORDAN, W. M., Assistant Surgeon. To proceed to San Francisco Quarantine and report to medical officer in command for temporary duty. March 30, 1898.

HASTINGS, HILL, Assistant Surgeon. To proceed to Middlesborough, Ky., for special temporary duty. April 2, 1898.

LAVINDER, C. H., Assistant Surgeon. To proceed to Cape Charles Quarantine and report to medical officer in command for duty and assignment to quarters. March 30, 1898.

RUSSELL, H. C., Assistant Surgeon. To proceed to Pittsburgh, Pa., and assume temporary command of service. March 30, 1898.

Board Convened.

Board convened to meet at Washington, D. C., April 5, 1898, for physical examination of officer of Revenue-Cutter Service.

Detail for the Board.

Surgeon H. W. AUSTIN, chairman; Passed Assistant Surgeon G. T. VAUGHAN, recorder.

Casualty.

Assistant Surgeon EMIL PROCHAZKA died of tubercle of the lungs at Silver City, New Mexico, April 1, 1898.

Society Meetings for the Coming Week:

MONDAY, *April 18th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, *April 19th:* Medical Association of the State of Alabama (first day—Birmingham); Medical Society of the State of California (first day—Fresno); New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Society of the County of Kings, N. Y.; Passaic, N. J., County Medical Society (annual); Baltimore Academy of Medicine.

WEDNESDAY, *April 20th:* Medical Association of Georgia (first day—Cumberland Island); Mississippi State Medical Association (first day—Jackson); Medical Association of the State of Alabama (second day); Medical Society of the State of California (second day); Medico-legal Society, New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Springfield Medical Club (private); Middlesex, Massachusetts, South District Medical Society (annual—Waltham); Windham, Connecticut, County Medical Society (annual--Plainfield); Philadelphia County Medical Society.

THURSDAY, *April 21st:* Medical Association of Georgia (second day); Mississippi State Medical Association (second day); Medical Association of the State of Alabama (third day); Medical Society of the State of California (third day); New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private); Atlanta Society of Medicine; Medical Society of City Hospital Alumni, St. Louis; Tolland, Connecticut, County Medical Society (annual).

FRIDAY, *April 22d:* Medical Association of Georgia (third day); Mississippi State Medical Association (third day); New York Clinical Society (private—annual); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, *April 23d:* New York Medical and Surgical Society (private).

Births, Marriages, and Deaths.

Born.

Jackson.—In New York, on Monday, April 11th, to Dr. and Mrs. Frank W. Jackson, a daughter.

Lescale.—In Paincourtville, Louisiana, on Tuesday, April 5th, to Dr. and Mrs. J. Fernand Lescale, a son.

Married.

Forsyth—Baker.—In Buffalo, on Tuesday, April 12th, Dr. Edgar Arthur Forsyth and Miss Nellie Norma Baker.

Pyle—Besson.—In Hoboken, N. J., on Monday, April 11th, Dr. Walter Lyttle Pyle, of Philadelphia, and Miss Adelaide Besson.

Van Derslice—Read.—In Chicago, on Tuesday, April 12th, Dr. James Warren Van Derslice and Miss Lillie Tryphena Read.

Died.

Black.—In St. Louis, on Wednesday, April 6th, Dr. Charles S. Black, late surgeon U. S. army, aged forty years.

Johnston.—In Birmingham, Alabama, on Sunday, April 3d, Dr. William H. Johnston, aged fifty-nine years.

Mortimore.—In New York, on Saturday, April 9th, Mrs. Kate May Mortimore, wife of Dr. S. Edgar Mortimore.

Prochazka.—In Silver City, New Mexico, on Friday, April 1st, Dr. Emil Prochazka, of the United States Marine-Hospital Service, aged thirty-six years.

Proceedings of Societies.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of January 5, 1898.

The President, Dr. Robert J. Carlisle, in the Chair.

(*Concluded from page 506.*)

When is Surgical Interference Justifiable in Cerebral Disease (i. e., in Cerebral Growths, Abscess, Epilepsy, Microcephalus, etc.)?—Dr. Edward D. Fisher read a paper with this title. (See page 528.)

Dr. Seabrook said that in a very large proportion of cases of operation for brain tumor there was actual relief of the choked disc; hence it was not unreasonable to expect improvement in vision. Oftentimes there was sufficient improvement of the vision and of what might be called pressure symptoms, it had been claimed, to justify operations on the skull, even though the tumor could not be removed.

Dr. Joseph D. Bryant favored a liberal opening in the cranium, just as one would make a free incision in removing a tumor from the soft parts. This had long been an accepted rule in surgery. Healing was better than where the incision was too small and the tissues were subjected to greater handling and roughness. Dr. Bryant referred to a case of cerebral tumor, regarded as inoperable, in which he had removed an area of bone, measuring three by two inches, along the line of the motor area. This had readily exposed the tumor and the motor centres near the fissure of Rolando, and had enabled the surgeon to determine that these centres were softened and destroyed. The patient had stood the operation well, and had recovered with a relief to the pressure symptoms. This was due to the removal of the bone, as the latter was not replaced.

Regarding operations in microcephalus, he said that these operations could not be regarded as trivial. In two instances in his practice the result had been disastrous. In one of these the patient had developed a high temperature within a few hours, and died on the fifth day. The discharges from the wound had been examined and pronounced by the bacteriologist to be entirely sterile. In isolated cases, therefore, no one could determine beforehand the amount of risk, and hence the friends should be informed of the possibility of a fatal termination. In cases of abscess there could be no question; all die without operation, while nearly half of the cases recover if operated upon.

Dr. N. E. Brill said that he was not in sympathy with the radical views expressed by the previous speakers. He was inclined to be more conservative in recommending surgical interference in cerebral disease, because he could not assure himself that diagnostic localization of brain lesions was as absolute as the reader of the paper insisted. In fact, it was not an uncommon experience for neurologists of note to make a diagnosis of focal disease and fail to have the site of the lesion found either by operation on the brain *intra vitam* or by an examination *post mortem*. He did not think that our knowledge of the physiology of the brain was as yet sufficiently exact to warrant us in making positive statements as to the location of many lesions. While there could be no doubt that much progress had been made in our ability to localize in some areas of the brain, there were other areas in which as yet no sufficiently characteristic localizing symptoms had been observed.

He deprecated surgical interference, especially in many cases, because the operation was attended by shock of considerable degree and severity, and because the hæmorrhage from the scalp was quite extensive.

In his opinion operations in cases of microcephalia were unjustifiable, because he could not understand, and had been unable to learn, how an opening in the cranium could relieve a condition due to a defect in the embryological or fœtal development of the brain.

The author of the paper had suggested that the skull be opened in cases of "inoperable" tumors of the brain on the ground that pressure symptoms would be relieved. Might not such pressure be relieved in a large number of cases by aspiration of the cerebro-spinal fluid, as suggested by Quincke? Lumbar puncture was much less serious than craniotomy.

Dr. Gorham Bacon said that he had understood the reader of the paper to say that there had not been many recoveries from brain abscess due to ear disease. He wished to correct that erroneous impression. Out of twenty cases at the New York Eye and Ear Infirmary, including brain abscess, sinus thrombosis, and suppurative meningitis, fifteen had ended in recovery after operations. During the last three months there had been three recoveries in cases of thrombosis of the lateral sinus, and in two of them the internal jugular vein had been tied. These cases had led him to think there was a great field for such operative interference. He was very glad that the reader of the paper approved of making a very large opening into the bone, instead of removing merely a small button; this had been his own practice for a long time. We should always make the mastoid antrum the starting point of the operation, and cut away the bone upward toward the middle cranial cavity, if brain abscess was suspected. If the symptoms pointed to cerebellar abscess, the bone should be cut backward so that the abscess could be reached and the sinus explored. The operation should be done as quickly as possible, and at an early stage if we wished to meet with success.

Dr. Robert T. Morris thought the paper had presented very well our present knowledge of brain surgery. Undoubtedly some unnecessary brain surgery had been done. Such things occurred in the history of advance movements. The reader of the paper had objected to operations for intracranial hæmorrhage because the clot had already damaged the brain. About two weeks before the speaker had operated in a case of apoplexy. The patient, who had been suffering from bronchitis, had ruptured a vessel in the left hemisphere in a paroxysm of coughing. This had been immediately followed by paralsis of the right arm, and five minutes later by paralysis of the right leg. Shortly afterward there had also been paralysis of the speech centres. When first seen by him, an hour afterward, the patient was entirely unconscious, and apparently dying. He was quickly taken to the hospital, and on his arrival there his pulse was 50 and weak, and the respirations were irregular. Dr. Morris immediately removed a large area of the skull over the ascending frontal and parietal convolutions, because there was some evidence of irritation along the motor arm area at first. On his opening the meninges a very large quantity of bloody serum escaped, and in a few seconds the patient's pulse and respiration became normal. Although the arm fibres were followed as far as the lateral ventricle on the left side, the clot was not found in that line of search, but near the island of Reil there was found freshly effused bloody serum, and small clots escaped from this point. The speaker provided for escape of blood externally to save further injury to the brain, and during the night apparently considerably more than a pint of blood and serum escaped. The case had progressed steadily toward recovery until the eleventh day, and the man was sitting up in bed and taking nourishment freely. At this time he was suddenly attacked with hypostatic pneumonia, which terminated fatally the following day. Dr. G. M. Hammond had made the postmortem examination, and the brain was now being hardened for careful examination. The autopsy had revealed the fact that the clot had been superficial in the left fissure of Sylvius and had extended as far as the lateral ventricle, but had not entered it. The free escape of bloody fluid had prevented that damage to the brain which would have resulted very quickly in death. He would report upon the specimen as soon as Dr. Hammond had completed his examination.

Dr. Fisher said that it was only the absolute hopelessness of cases of microcephalia that justified the surgeon in interfering. There were many cases in which the brain structure was not absent; there was simply a condition of atrophy, and in these it was proper to operate. Unquestionably these operations were occasionally fatal, but the cases were so hopeless otherwise that opertion seemed to him justifiable. He had not been aware before of the fact that the proportion of recoveries after operations for otitis media was as great as Dr. Bacon had stated. He had never seen a case of intracerebral hæmorrhage, except those in which the hæmorrhage was considerably posterior to the motor areas, in which much could be expected from operation. The operation was not a new one. He thought that Dr. Morris had relieved the external compression, as in a case of meningeal hæmorrhage. Evidently some blood had penetrated into the substance of the brain, but it was certainly not in the motor area. The paralysis in this case had resulted from pressure on the convex surface of the brain under the dura; it was that form of paralysis found in cases of meningeal hæmorrhage or in fracture of the skull. In other forms of paralysis, as from destruction of a portion of the motor area of the brain, the paralysis could not be relieved, although it was true life might be preserved in some cases of intracerebral hæmorrhage. Dr. Morris's case was unique, but it did not open up, in his opinion, a field for operation in ordinary intracerebral hæmorrhage.

Interesting Röntgen Pictures.—Dr. Joseph D. Bryant exhibited a life-size radiograph of a child of ten years who, while playing on the second floor of a house, had received a pistol wound, the pistol having been discharged from the floor below. The bullet had entered the posterior portion of the thorax, about opposite the ninth rib, and had lodged just above the crest of the ilium. With the aid of the Röntgen rays and the Girdner telephonic probe, it had been easy to make out the situation of the bullet and remove it by direct incision.

The second picture was that of a man, seen at St. Vincent's Hospital, in whom the diagnosis had rested between a dislocation outward of both bones of the forearm and a fracture running downward and inward between the condyles of the humerus. The picture showed it to be a dislocation of both bones outward, and illustrated in a very striking manner the valuable aid rendered by the Röntgen rays.

The third picture was from a case of twisting of the radius. The person had been injured by striking the arm against a revolving shaft, and the condition had been mistaken for a Colles's fracture.

Meeting of February 2, 1898.

The President, Dr. Robert J. Carlisle, in the Chair.

A Case of Intussusception.—Dr. John F. Erdmann reported a case of intussusception, and presented the specimen. (See page 526.)

A Renal Calculus.—Dr. Erdmann exhibited a calculus that had been passed by a young student who had first consulted him about one month ago for a pain in the lumbar region. The history obtained at that time had pointed to lumbago, and he had accordingly been placed on the usual remedies for that disorder. That afternoon, while riding in the cars, he had had a mild attack of renal colic, which had subsided under the use of morphine and hyoscine hydrobromide. The first urine passed had contained mucus and gritty detritus. He had then been put upon thirty drops of lysidine, and directed to take lithia water freely. After a week he had had another mild attack, but the examination of the urine at this time had been negative. During the fourth week of his trouble he had complained of uneasiness in the lumbar region. It had then been suggested that the stone might be located by an X-ray examination, and that operative interference seemed advisable. The following night, after a great deal of pain, the patient had expelled a calculus, fully an inch and a quarter long. It had been fractured in drying the calculus with a towel. It was composed of calcium carbonate and phosphate.

The Use of Extract of Suprarenal Capsule in Exophthalmic Goitre.—Dr. George W. Crary made some remarks on this subject. He said that there were some well-marked cases of exophthalmic goître in which the exophthalmia and the goître were confined to the same side. In some instances the unilateral enlargement of the thyreoid and the other symptoms of the disease were crossed. It seemed to him inconceivable that the altered secretion of the thyreoid could possibly cause symptoms of exophthalmic goître on one side of the body only, and hence we must look further for the causes of exophthalmic goître. The thyreoid being a ductless gland, the attention of the profession had been called to other ductless glands. The extract of thymus gland had been used by a great many observers in the treatment of exophthalmic goître. It had been begun accidentally, the thymus having been used by mistake for the thyreoid gland. Those who had used extract of thymus had agreed that it was not a specific. The essential symptoms of the disease had not been very much benefited, but the general condition had been decidedly improved. Very large doses must be used, and, personally, he was of the opinion that the benefit was due to the nuclein which necessarily existed in the thymus extract. He had had six or eight cases of exophthalmic goître on thymus-gland extract for periods varying from a few months to two years or more. The improvement had not been constant, and the essential symptoms of the disease had not disappeared.

Another of the ductless glands that had been used in the treatment of exophthalmic goître was the extract of the suprarenal capsule. It was not a specific for the disease. The suprarenal gland, on section, was shown to be composed of a cortical and a medullary portion. In the former were found the arteries, veins, and lymphatic spaces. The medullary portion was made up mostly of a large plexus of veins, but also contained a great number of nerve fibres and nerve cells connected with the solar and renal plexuses of the sympathetic, and with the plexuses of the phrenic and pneumogastric nerves. It was only from the medullary portion of the gland that the active principle was obtained. This substance had been shown by a number of observers to exist normally in the blood of the suprarenal vein (Dreyer). This vein, on the right side, opened into the vena cava, and on the left side into the left renal vein. This active substance had been investigated by Abel and Crawford, among others, and had been classed by them with the pyridine bases, or alkaloids.

A watery extract, containing this substance, could be easily prepared by drying the chopped glands over a water bath and powdering the residue. The desiccated preparations on the market had been found to contain the alkaloid. A watery extract could be made from these by placing a quantity of the preparation in cold water for a few minutes, filtering through paper, and evaporating to dryness. Sixteen ounces of the fresh gland and eight ounces of the desiccated powder would yield one ounce of the watery extract. The evaporation was best done at a temperature of 105° F., but the solution might be boiled repeatedly, for fifteen minutes at a time, without the extract losing its toxic properties (Bates).

An extract containing the active principle of the adrenal had been found to be toxic, even to a lethal degree, when injected into the veins of animals, and the death of the animal had been preceded and accompanied by paralysis of the hind limbs, convulsions of the anterior limbs, opisthotonus, and suffocation. A marked rise of blood pressure had also been noted. Examination after death had revealed pulmonary œdema, extravasation into the pleural cavity, the heart in diastole, and acute parenchymatous nephritis. The rise in arterial pressure was a constant result of the administration of suprarenal extract, both in the lower animals and in man, whether the drug was introduced endermically, hypodermically, by intravenous injection, or by the mouth. Associated with this rise in blood pressure were a contraction of the capillaries and small arterioles and a slowing of the heart's action through the sympathetic. It should seem, therefore, that in suprarenal extract we had a therapeutic agent whose physiological action might be used to antagonize some of the symptoms of exophthalmic goître.

One case that had impressed him a good deal was that of a girl of twenty-three years, who had first come under his observation on February 28, 1896. She had been poorly nourished, and had had a very large goître, with marked exophthalmia and a loud systolic murmur. Her pulse had been 126 to 144, and the heart action irritable. The tremor, muscular weakness, sweating, flushing, and general nervousness had been very marked indeed. Under the use of tonics and thymus, kept up until January, 1897, there had been slight improvement in the essential symptoms, and marked improvement in the general nutrition. The administration of the extract of the suprarenal gland had then been begun, and the improvement had been quite progressive until, in May, 1897, the patient had considered herself well. She had ventured then to take to bicycle riding. Notwithstanding this improvement, the pulse would, at times, run up to 136. The goître had almost entirely disappeared, the tremor was not very marked, and she had gained considerable flesh. She had not had any extract of the suprarenal for about two weeks before this examination, which perhaps had accounted for the rapidity of the pulse. It seemed to him quite remarkable that she had improved so much more under the extract of suprarenal gland than under the thymus extract. The great improvement in the muscular strength had been especially noticeable. The patient had ceased taking the suprarenal capsule for some time, and this had been followed by a rapid deterioration in her condition. This "see-sawing" had been observed on three different occasions. She was by no means well now, but her improvement had been so decided that he had been favorably impressed with the treatment. The speaker said that unfortunately a good deal of unfavorable criticism had been made regarding the use of animal extracts because of certain ridiculous statements that had been made for them. His object in reporting the case was to encourage a further trial of the treatment. Any quantity of the thymus gland could be administered to a patient without giving rise to any symptoms whatever, but it was very different with the extract of the suprarenal capsule, which was far from being inert. In marked cases of conjunctivitis, or in other eye affections causing injection of the cornea, the application of a little of the watery extract of the suprarenal gland would at once cause a blanching of the part. This action had been made use of in various eye diseases to reduce the hæmorrhage in cases in which cocaine had been used (Bates). The injection of a large dose of suprarenal extract into the vein of a small animal would cause death in a few minutes.

Dr. Alexander Lambert asked if the chemical constitution of the pyridine base had been made out, because the symptoms produced in animals were similar to those caused by the application of nicotine to the tongue. The substances having a pyridine base were those which caused the toxic symptoms observed in excessive pipe-smoking. Last year Dr. Dana had had in Bellevue Hospital a young woman with a very marked and typical exophthalmic goître. He had given her tablets composed of the pituitary body, and she had improved very rapidly, and had been discharged apparently in excellent health. She had returned to the hospital last week for observation. The exophthalmia and the goître had remained away, but the tachycardia had returned, and the pulse was 146. She was apparently in good health.

Three weeks before a man had come into the hospital with tremor, attacks of dizziness, and marked exophthalmia. He had had Stellwag's and von Graefe's sign to a slight degree. There had been no goître, but moderate tachycardia. He had placed this man on the use of pituitary extract as an experiment. He had now been on the remedy only about one week. The pulse ranged between 80 and 90; the Stellwag's and von Graefe's signs had almost disappeared; the exophthalmia had been reduced, and the dizziness and anæmia had disappeared. Small doses of iron had also been given. Apparently the use of the adrenal extract was more scientific, because it was founded on a certain physiological action of the gland.

The President asked Dr. Crary if the extract had made any impression on the urine, and also for more specific statements regarding the dose.

Dr. Crary replied that he had not heard before of the use of the extract of the pineal gland in cases of exophthalmic goître. He supposed it had been used on the general principle that the other ductless glands had proved of some service. The action of the extract in Dr. Lambert's case had apparently been much more rapid than with the other extracts. He would not ordinarily draw any conclusions from one or two cases, and his only reason for reporting a single case was because of the instructive contrast afforded by the different methods of treatment that had been employed.

The essential symptoms of exophthalmic goître he believed to be the tachycardia and the tremor, and if in a supposed case of exophthalmic goître there was tachycardia but no tremor, he would be inclined to think that it was some other disease, or else that the tremor had not yet developed. He had been unable to make examinations of the urine in the case reported by him, because the patient had been a girl living out of town, and it had been difficult to keep her under observation at all. He had begun with a small dose of the suprarenal extract. At present, his patient was taking a five-grain tablet, which, he believed, represented about eight grains of the gland. This dose was taken three times a day. He had been using Armour's product, but the remedy was so easily prepared that almost any extract should be satisfactory.

The President said that the reference to the so-called cardinal symptoms reminded him of a case in which a young lady had developed a tremor, without exophthalmia, without a goître, and without any marked tachycardia, about one year before the other symptoms of exophthalmic goître. These symptoms had recently developed very rapidly. The patient had been a woman, twenty-seven years of age, who had had a very marked fine tumor which had disappeared under tonic treatment. This had been followed immediately by an attack of erysipelas and a disappearance of the tachycardia. Both tachycardia and tremor had returned after four weeks.

Acute Intestinal Obstruction simulating Meningitis.—Dr. Walter C. Wood presented a specimen of Meckel's diverticulum in connection with the report of a case that illustrated the statement made by Mr. Treves, that sometimes acute intestinal obstruction was diagnosticated as acute meningitis. The specimen had been removed by him from a girl of eight years who, after having freely indulged in cheap candy on November 15th, had had an attack of vomiting and abdominal pain. On November 17th the attending physician had given enemata, with small but unsatisfactory results, and as the vomiting and abdominal pain had continued he had been asked to see her on November 19th. At that time she had been delirious and had had frequent convulsions in the face and arm muscles; the pupils had been equal, the neck rigid, and the abdomen slightly distended and apparently tender near the umbilicus. The pulse had been 130 and the temperature 99° F. On rectal examination, a small quantity of fæces had come away. The clinical picture had been that of acute poisoning or of cerebral irritation. An opium suppository had been given to quiet the nervous symptoms, but the obstruction having become complete, an operation for its relief had been done the next day. The cause had been discovered to be a Meckel's diverticulum, which was adherent by the tip to the mesentery, and compressing an underlying coil of small intestine. Since the operation the child had been remarkably quiet and free from nervous symptoms. The clinical picture certainly had pointed very strongly to meningeal irritation, and if the case had been seen only at this time, and there had been no history, it would have been almost impossible to have detected the abdominal condition.

Dr. William J. Chandler, of South Orange, N. J., thought it was a well-recognized fact that in many autopsies in cases of acute meningitis intussusception was found, so that it was quite possible for such an error in diagnosis to be made.

(*To be concluded.*)

Miscellany.

The Symptomatology and Treatment of Pyæmic Sinus Thrombosis.—In the first number of the *Archives of Otology* for the year 1898 we find a most important article entitled A Contribution to the Symptomatology and Treatment of Pyæmic Sinus Thrombosis, by Dr. Frederick Whiting, aural surgeon to the New York Eye and Ear Infirmary. It is based upon three cases in which operative interference was successful. Dr. Whiting leads up to his theme by a brief but masterly *résumé* of the steps by which surgeons have come to their present modes of dealing with sinus thrombosis. We regret exceedingly that we have not space for an abstract of that portion of his article.

The local symptoms, he says, are few, obscure, and indeterminate. The most constant is, of course, pain, usually radiating from the ear over the corresponding side of the head, varying in intensity from dull aching to violent cephalalgia of unendurable severity. Associated with this pain there is often œdema of the mastoid region, extending backward and upward over the site of exit of the mastoid vein and downward to that portion of the scalp drained by the occipital vein. When this manifestation of circulatory embarrassment is present, there is usually distinct tenderness, and in some instances there is exquisite sensitiveness over the same area. Another manifestation that has been occasionally remarked as an evidence of obstructed circulation, most recently by Stirling (*Canada Medical Record*, November, 1896), is moderate œdema or puffiness of the eyelids of the corresponding side as a result of interference with the cavernous sinus and engorgement of the ophthalmic vein.

The tenderness in the upper portion of the posterior cervical triangle, upon the importance of which Griesinger insists, is as often absent as present, but when it exists it is a valuable aid in estimating the probable position and extent of the obstructing thrombus. The deeper down toward the bulb the clot extends and the more marked the disintegration, the greater the constancy of Griesinger's symptom, which depends upon inflammation of the deep veins of the neck, the anterior and posterior condylar participating with considerable frequency in the inflammatory extension from the sinus.

Intraocular inflammatory changes are observed in a considerable number of cases, and usually take the form of neuro-retinitis, although in a few instances where there has been extension of a non-infective clot into the cavernous sinus certain muscular paralyses have manifested themselves as the result of pressure; the pallid and anxious countenance, the perspiratory suffusion of the face and brow, are in no wise distinctive of this special lesion, but are equally common attributes of allied intracranial infective diseases when the toxæmia is pronounced.

The general or systemic symptoms of sinus thrombosis are essentially those of septico-pyæmia, and the manifestations are the results of the dissemination of the pathogenic micro-organisms through the blood-vessels and lymph channels. An attack of sigmoid-sinus phlebitis is usually ushered in by pain in the affected side of the head, a feeling of malaise and nausea preceded or followed by a sharp chill and a sudden and pronounced rise in temperature, 106° F. being frequently recorded. This marked pyrexia is subject to frequent remissions, and the amplitude of the exacerbation is at times very great, although the febrile period may be exceedingly brief, two hours sufficing in numerous instances for a variation of 6° F. This very high temperature is significant of the degree of toxæmia present in the case, and is a valuable guide to the septic complications to be expected, or, one might say, a warning of them. With such fever there could be prophesied with almost absolute certainty multiple metastases and a succession of unfavorable developments. Of ninety-five cases of metastatic sinus thrombosis recorded by Hessler, but twelve exhibited temperatures of 106° F.; and of twenty-six cases which were free of metastases, not one approached this degree. Important clinical deductions may with reason be made from such a statistical array, which begets confidence in the operator and enables him to offer his prognosis with less hesitation and greater intelligence.

Equally important inferentially is the appearance of rigors, which constitute a prominent feature at all stages of sinus thrombosis. They occur early, are frequently repeated, and as the toxæmia increases may even become daily manifestations, accompanied by profuse perspiration. While it is true that chills are the most constant symptom of the onset of infective phlebitis, it is also true that they may be entirely wanting, and sixteen such cases are recorded, also forty in which but a single chill was experienced, against two hundred in which the rigors were frequent. Repeated chills may therefore be expected in four fifths of the cases. When the chills are frequent and prolonged the subsequent sweating is pronounced and debilitating and the associated septic processes are proportionally virulent. Allen has reported a case in which with repeated chills there was no sweating until during the few hours immediately preceding death. These exceptions to the usual rule in the sequence of symptoms serve chiefly to emphasize their fallibility for purposes of diagnosis.

Vertigo is present in a moderate proportion of cases which are uncomplicated, and, like vomiting, is more constant when the trouble is associated with meningitis. As a symptom of sinus thrombosis, it is by no means a distinguishing characteristic, and the importance attributed to it should not be overestimated. As an accompaniment of acute infective conditions, it makes its appearance suddenly, and is apt to diminish as the disease progresses, and then to recur with later unfavorable manifestations; at some times it is present only when the patient assumes the erect posture, at others it asserts itself even during recumbency.

The pulse and respiration in the first week show a moderate acceleration, becoming exaggerated with the passage of time and increasing toxæmia, until in fatal cases of pyæmic thrombosis the pulse rate mounts to 180 or becomes so rapid and feeble as to defy computation, the breathing being also embarrassed, and the respirations occurring as frequently as forty times a minute.

There is no symptom of sinus thrombosis more subject to variation than consciousness, which in very many cases, particularly if uncomplicated with meningitis, remains unimpaired up to the moment of death. Again, there may be speedy loss of it associated with wild delirium, or the patient may lapse into a somnolent condition, capable of being roused and interrogated with the result of eliciting monosyllabic replies; this state usually precedes coma.

With the appearance of the foregoing symptoms there is loss of appetite and usually there is constipation, although later in the disease, as the septic influences become more pronounced, diarrhœa is almost uniformly present. In a case of sinus thrombosis which, either with or without operation, terminates fatally, there appears a line of symptoms after a variable interval, but generally about fifteen days, which are recognized as indicating an unfavorable turn in the disease, and these are arranged by Macewen into three groups according as the dominant symptoms are pulmonary, abdominal, or meningeal.

The pulmonary manifestations begin insidiously, usually with a slight dyspnœa and cough, and patients complain of localized areas of pain over the chest, which may be confined to one lung, but are apt to involve both. These stitches of pain are due to the plugging of small pulmonary vessels and the establishment of infarctions here and there over the lung. These pains are followed in the course of twenty-four hours or so by rusty sputum and moist râles, which are the first auscultatory signs. The sputum swarms with bacteria, and has an offensive, putrid odor, which may also be noticed in the breath. Large areas of the lung become gangrenous, and the abscesses resulting from the infarctions cause extensive disintegration. Cerebral action remains unimpaired until the end, and death ensues from exhaustion.

The abdominal type manifests itself in symptoms of a typhoid character. Septic enteritis has indeed been so diagnosticated under misapprehension of the conditions and failure to recognize the otorrhœa as the ætiological factor. There is loss of appetite, with dry furred tongue and diarrhœa, the odor of the discharges from the bowels resembling that of the otorrhœa. There are but few rigors, generally not pronounced; there is great prostration and soon muttering delirium. The diagnosis between septic enteritis and typhoid fever depends upon the absence of the rose-colored eruption and the recognition of the otorrhœa, with tenderness of the mastoid of one side and perhaps of the corresponding jugular.

The temperature is continuously high. Chills are incidental, but not frequent, and indicate the beginning or presence of some complication. Vomiting occurs frequently. There are apt to be clonic and tonic spasms of certain muscles of the face and neck, also paresis of others. The symptoms depend largely upon the portions of the brain involved, which the increasing precision in cerebral localization aids largely in determining. Strabismus is a common symptom, and in case the leptomeningitis becomes spinal there are spinal indications, girdle pains, and absolute prostration. The patient can be aroused by interrogation, but exhibits extreme irritability if the interrogatory is prolonged, and I once saw a case, in consultation with Dr. Bacon, in which the patient, usually a quiet fellow, upon being aroused by questioning, grew immediately abusive and blasphemous. In the later stages delirium supervenes, and the patient soon becomes comatose, after which the fatal termination is never long delayed.

These symptoms, as arranged by Macewen, are seldom encountered as typical manifestations in any given case. Indeed, there are quite likely to be present symptoms from each group, but, as a rule, those characterizing one type or other will predominate; it should also be remembered that an array of symptoms closely simulating those just enumerated may arise from lepto-meningitis resulting from perforation of the tegmen tympani and without any participation of the sinus whatsoever.

Accepting the foregoing symptoms as embracing the essential manifestations encountered in the course of pyæmic sinus thrombosis, a pertinent question will be, Which of them are sufficiently constant to warrant a diagnosis of the affection?

The diagnosis in a typical case where the chronic suppuration of the ear is recognized, associated with repeated and severe chills, sudden and excessive rises of temperature, with rapid remissions, the establishment of metastases, either central or peripheral, and obstruction of the jugular, sufficiently pronounced to be recognizable to the touch, does not offer great difficulties. But it is highly essential to the successful prosecution of treatment that the condition be recognized if possible before the establishment of those symptoms constituting unquestioned pyæmia—that is to say, in the earlier septic stages. Here the presence of Griesinger's symptom, œdema of the region of the occipital vein with marked tenderness on pressure in the upper portion of the posterior cervical triangle, will be a guide; and if the Gerhardt symptom of diminished flow through the external jugular of the affected side, not thoroughly accepted, can be determined, with rigors and sudden rises and remissions of temperature, with occasional vomiting and perhaps œdema of the eyelids of the affected side, with paresis of one or more nerves located in the region of the cavernous sinus, the diagnosis, if not assured, is at least sufficiently probable to justify one in taking the step which, no matter how pronounced the symptoms may be, must ultimately be resorted to for absolute proof of the presence of sinus thrombosis, viz., operative investigation.

The question of how and when to operate, it would seem reasonable to suppose, might with increasing experience be determined beyond peradventure; it may, however, be said that great diversities of opinion regarding the treatment of these conditions still exist, especially with reference to the precise steps to be instituted and the most advantageous moment for resorting to them.

The views of two celebrated writers upon the subject are quoted by Dr. Whiting. Körner says: "As soon as you have made the diagnosis of sinus thrombosis, the moment to operate has arrived," and conveys the impression that further delay is a calamity. Hessler, on the contrary, says (*Die otogene Pyämie*): "When puncturing the sinus with an aspirating needle shows that a simple clot is present, operation is not indicated, but repeated daily punctures should be made and the contents of the aspirating needle carefully examined microscopically for pus and micro-organisms. The failure to find these is to be accepted as proof that the clot is benign and will undergo constructive organization, while the discovery of bacteria in the contents of the aspirator is indication for operation"; and he deprecates undue haste in opening the sinus.

The attitude of Hessler is practically unique, and, so far as Dr. Whiting is aware, unsupported; it is open to what appears a valid objection, that in the event of the thrombus being non-infective the frequent puncture tests made with an aspirator would speedily compass the result he endeavors to guard against—that is, infection. And, again, there might exist several small foci of suppuration in the clot which his punctures did not discover, but from which septic absorption might readily originate and dissemination begin.

Körner voices the sentiment of the great majority of operators, for there is practical uniformity in the advocacy of immediate operation upon the sinus as soon as we are certain of its being the site of obstructive phlebitis. This appears to be rational treatment, for with the thorough removal of the clot the danger of any further infection is removed, while the presence of the thrombus is a continual menace to life not to be tolerated, notwithstanding in a few instances it has remained innocuous and become organized. The tendency of infective thrombosis is always toward disintegration and the establishment of metastatic embolic processes. If in a few cases a more favorable termination has supervened, the result may be cause for congratulation, but does not justify us in expecting a repetition of it or in failing to meet the clearest indications for operative interference.

The solution of the question of whether to tie the jugular or not is rendered perplexing by the fact that illustrious names may be found enrolled on each side, but the advocates of ligation are a formidable majority, and recent otological literature is steadily recruiting their ranks.

The well-nigh universally recognized method of procedure for the relief of sinus thrombosis is to uncover with chisel and rongeur the sinus at the knee and descending portion. Before this is done, however, the mastoid antrum should be freely opened, as it is the largest cavity in the mastoid apophysis, and may, if not thoroughly cleansed, remain a source of continued infection. The presence of a thrombus having been determined, its extent can be ascertained by inspection, palpation, and aspiration. It can often be seen dilating the sinus walls as if a cord too large for the lumen had been forcibly drawn into it, and upon palpation it feels firm, dense, and resisting. The needle thrust into it brings away either serum, disintegrated clot, pus, or nothing at all, as the case may be. The area of sinus involved may be small, or it may extend well back toward the torcular and down toward the bulb. In any case, the sigmoid groove must be cut away sufficiently to admit of full investigation of the thrombotic portion, for otherwise any attempt at operative relief is attended with needlessly embarrassing difficulties. At this point in the operation one must determine regarding the desirability of ligating the jugular. If it is to be done it should be done at once, before the sinus is opened. If it is not to be done, the sinus wall should be freely incised in its long axis and the obstructing contents removed with a sharp curette, first from the direction of the torcular, and the current re-established from this direction. One should not feel too great an anxiety to control the flow of blood at once; the outflow, if momentarily encouraged, may expel infective masses which would otherwise remain as dangerous tenants. When the flow is sufficiently rapid to show that the lumen is clear, a gauze tampon packed upon and not into the opening will control it easily and safely.

The same steps must now be repeated in the proximal end of the open sinus until the circulation is here re-established and controlled better by packing gauze into the lumen of the vein. Its withdrawal at a later dressing is seldom followed by bleeding, owing to the crooked course of the groove at the bulb, the clotting taking place very readily and firmly, quite in contrast to the sinus in its horizontal position, which, if one packs gauze into its lumen for any distance, is almost certain to bleed more or less profusely at the first and may be at the second dressing; in one case of the author's it did even at the third.

In the event of failure to re-establish the circulation from below the jugular bulb, whether a purulent disintegrated clot has been removed or not, it is the operator's imperative duty to his patient to tie the internal jugular forthwith, as otherwise the main avenue to almost certain pulmonary metastases would be left wide open. Dr. Whiting protests vigorously against a procedure which he has occasionally witnessed upon the operating table, and himself participated in, when an attempt is made to force the return circulation from below upward through the obstructed bulb by forcible manual pressure upon the muscles of the neck. He believes that all attempts at re-establishing the circulation by making pressure from below upward upon the muscles of the neck, in the hope of dislodging the clot, can not be too severely condemned; it is a procedure, in his opinion, eminently calculated to favor the dissemination of obstructing infective material either directly through the jugular or collaterally through the tributary veins. Upon the same reasoning, all manipulation of the carotid triangles other than that necessary for the recognition of the infiltration along the jugular should be discountenanced, and when once the diagnosis is made, positively forbidden.

The prevailing opinion at the present time among operators undoubtedly favors ligating the jugular in all cases where the toxic symptoms are pronounced or where metastases are already present as a preliminary step to opening the sinus; also in those cases in which the toxæmia may not be marked and metastases are absent, if the thrombus involves any very large area of the vein, especially at the bulb, the jugular should be tied before the sinus is opened. The safest way, as indicated by Voss, is to uncover the sinus first and verify the diagnosis, then tie the jugular; one is then on the safe side.

Dr. Whiting's account of his cases, which is most interesting, we condense as follows:

Case I.—A German, aged forty-two years, applied for treatment at the infirmary in June, 1896. He had always enjoyed good health until December, 1895, when he had acute suppuration of right ear followed by mastoiditis, for which he was operated upon by his physician, in Scranton, Pa. The symptoms subsided, but otorrhœa persisted. He complained of a glandular swelling in the front of and below the ear occupying the situation of the parotid gland. This was dissected out without difficulty, and the wound healed readily, but the patient had facial paralysis as the result of the operation. The tumor was a round-celled sarcoma.

On January 30, 1897, the patient reapplied at the infirmary. There was slight induration about the edges of the scar left from the operation for the removal of the growth, but nothing of any significance. He now applied for treatment of his right ear.

The canal of that ear was found filled with granulations and a probe introduced came into direct contact with a large sequestrum. No details of the tympanum could be recognized. The entire mastoid region appeared red, swollen, and œdematous, the œdema extending backward quite to the occipital protuberance. This entire area was exquisitely tender, particularly over the region of exit of the mastoid vein. The right tonsil was discharging pus and had a small mass of granulation upon its upper border; this, it was thought, might possibly lead to a sinus in the petrous bone or be an extension of the sarcoma.

He had been treated for a month by a surgeon who curetted the granulations of the canal on three occasions at intervals of a week; these procedures occasioned him great pain and after the last curetting, four days before, he suffered severe cephalalgia, which had now, he said, become intolerable. During the same period he had had a chill followed by fever each day, with vomiting of everything taken into the stomach, and vertigo so marked that on entering the clinic he staggered like a drunken man. His countenance wore a distressed and anxious look and was expressive of prolonged and severe suffering. His temperature was 102.5° F. A probable diagnosis of sinus thrombosis was made, and the man was prepared for immediate operation, which was performed at 4.30 P. M. the same day.

The lower two thirds of the mastoid process were entirely sclerosed and were of stony hardness, as was also the cortex of the entire apophysis; but the upper third, after removal of the outer table, was found necrosed, a sequestrum extending from the posterior wall of the bony meatus directly backward to and including the wall of the sigmoid groove. The entire process was removed as rapidly as possible with chisel and rongeur and the sinus exposed from the knee down to the bulb. It was much distended and very firm and resisting to palpation. Pulsation of the sinus could be plainly seen and felt and was evidently propagated from the underlying brain tissue. A second incision was now made on a level with the external auditory meatus, directly backward toward the occipital protuberance, and the lateral sinus uncovered backward from the knee. The sinus walls having been thoroughly sterilized with a solution of bichloride of mercury, 1 to 5,000, and then with hydrogen peroxide, an aspirating needle was introduced downward toward the bulb and backward toward the torcular without obtaining any blood, but only a little serum, odorless and containing many leucocytes. The parietal sinus wall was free of any lymph or granulation, and no pus was found in the cranial cavity; the necrotic bone in contact with the sinus was very dark and contained a fluid of much the color of coffee dregs, but odorless.

The sinus wall was now incised, and a firm, fibrinous clot exposed; this was very easily removed with a forceps, and, after the central portion had been withdrawn, the pressure of the blood current and the elasticity of the vessel walls forced the remainder out without any curetting and the circulation was re-established from below and above. Packing with iodoform gauze easily controlled the flow. As there had been no tenderness along the course of the internal jugular and no induration to be felt, it was considered that ligation was not indicated and it was not performed. The sepsis was of a low degree and recovery was complete. Seven months after the operation, the patient was seen and was undoubtedly suffering from a return of the sarcoma in the face. He had great difficulty in opening the mouth, both because of the induration of the muscles upon the side of the face and probably also from erosion of the articular cartilages of the jaw. He was emaciated and sallow, presenting the cachectic appearance of a cancerous subject.

The feature of special interest in this case, says Dr. Whiting, lies in a consideration of the immediate cause of the thrombosis. This appears to him beyond reasonable doubt to have been the direct sequence to the curetting of the granulations in the tympanum, which, until their destruction, had acted a conservative part; their removal had opened a channel for the introduction of pyogenic germs into the cranial cavity. A second interesting feature is the presence of visible and tangible pulsation in the sinus walls, notwithstanding the fact that the lumen was firmly distended with clot. It was undoubtedly propagated from the brain. Also worthy of mention is the fact that, although the clot had not disintegrated and was odorless, it must have been just upon the point of breaking down, because great numbers of pus cells were in the fluid withdrawn by the aspirator from the sinus. The infection of sinus evidently took place by direct contiguity with carious bone, for there was found in the cranium neither lymph, pus, nor granulation.

Case II.—A woman, born in Germany, aged thirty years, always strong and well, was admitted into the infirmary on July 28, 1897. During the last week of February she had suffered with a severe attack of influenza, and, to relieve the congestion of her head, used a nasal douche of salt solution on two occasions, the last of which was followed by sharp pain in the right ear. This pain continued for three days, and was relieved by the appearance of profuse suppuration, which, after three days, diminished in amount, and the mastoid became tender and afterward swollen and œdematous. She was treated by douching until she was admitted into the infirmary. Her temperature was then 100° F.; the mastoid was swollen, œdematous, and very tender; the supero-posterior canal wall was bulging, and the discharge was profuse. The cold coil was kept applied for thirty-six hours, with hot douching every three hours, but tenderness and pain persisted, with a temperature of 100° F.

She was operated upon on March 22d. The mastoid process was the seat of empyema and was removed, with the exception of the tip. The wall of the sigmoid groove was carious and was removed by curetting, exposing the descending portion of the sigmoid sinus for half an inch, which, showing no symptom of involvement, was not investigated. She did well and was discharged for attendance and dressing at the clinic on April 3d, when the temperature was 98°. The wound was dressed in the dispensary for the next three months, and the process of healing was noted as very slow. Necrosed bone was recognized as being present in the wound, but she presented no symptoms of any systemic disturbance until July 24th, when she had a severe chill and rapid rise of temperature. During the following four days she had at least one chill daily, and sometimes two, with accompanying fever, loss of appetite, and frequent vomiting, independent of the presence of food in the stomach.

On the fifth day after her first chill she was admitted to the hospital, on July 29th. She was carried into the ward and placed in bed, exhibiting all the signs of collapse, a small, feeble pulse of 108; temperature, 101°; a complexion of ashen hue; respiration, 28; the features having an anxious, pinched look, and being covered with colliquative perspiration. The temperature rose rapidly, and at 6 P. M. it was 106°; it declined rapidly, and a few hours later it was 101°. She was stimulated with whisky, strychnine, digitalis, etc., and was freely sponged with alcohol during the febrile rise. Her heart sounds were normal, although the action was feeble. The urine contained a large amount of albumin by volume, together with some hyaline and blood casts; reaction, alkaline; specific gravity, 1.015.

The external auditory meatus was slightly excoriated from an acrid discharge. There was no bulging of the fundus, and in the infero-posterior quadrant of the membrana tympani there was a small perforation through which a scanty discharge was escaping. Inspection of the mastoid showed an open wound, the result of incomplete healing after the mastoid operation; the lips of the wound were sloughing, and the granulations upon their margins were disorganized and bathed in ichorous discharge. A considerable area of necrosed bone, very dark in color and cribriform in appearance, was present in the gaping wound. It was irregular in outline. The flaps of the wound were œdematous for a considerable distance backward toward the occiput and upward toward the vertex, over which region palpation elicited moderate tenderness. There was marked tenderness along the course of the jugular in the neck, and the patient complained of pain even upon the slightest manipulation. A fact of much interest was that, while inspecting the cervical region upon the affected side, Dr. Whiting laid his finger with sufficient force to make obstructive pressure across the course of the external jugular, and, notwithstanding that the pressure was continued for a considerable period, no turgescence of the vein ensued, and, indeed, there was no appreciable difference to be noted in the size of the vessel when pressed upon or when unimpeded; while upon the healthy side the external jugular, although not unduly prominent, became immediately engorged to a pronounced degree upon very light pressure.

On July 29th the wound made in the original mastoid operation was extended directly upward to the squamous suture, and a second incision was made extending backward from the first at the level of the centre of the meatus auditorius externus, three inches, or nearly to the occipital protuberance; these flaps were easily raised except near the site of the original wound, where the periosteum was adherent and thickened.

When the flaps were elevated over the foramen of exit for the mastoid vein, there was no bleeding, an important diagnostic point. With sharp curettes and rongeur an extensive area of necrosed bone was removed, extending from the remains of the mastoid tip upward well into the squama, exposing the temporo-sphenoidal lobe, and backward over the sigmoid groove, the entire bony wall of which, as far downward as the foramen lacerum posterius, was soft, almost like cork, and easily broken away in large pieces; there was necrosis of the entire mastoid apophysis.

The sigmoid sinus was uncovered at the knee and backward an inch and a half along the horizontal portion, also all the descending portion as far as the jugular bulb. Every bit of the inner table comprised in the sigmoid groove was of a dark or brownish hue, more marked down toward the jugular, and was roughened and fenestrated with numberless minute perforations, in none of which were any granulations found. The parietal wall of the sinus was found quite free from any plastic lymph or granulation; it was greatly distended, tense, and prominent; there was no pulsation seen or felt, and upon palpation the sinus was very firm and resisting; the walls were intact throughout, on both the parietal and visceral surfaces, and there was no discoverable point where ulceration had supervened.

The exposed dura in the immediate neighborhood of the sinus appeared normal in color, and did not bulge or pulsate unduly; a thoroughly sterilized aspirating needle was now introduced into the sinus as far back toward the torcular as the opening in the bone would permit; the attempt at aspirating was negative; the needle was again rendered aseptic by boiling, and reintroduced at the jugular bulb, which second attempt at aspiration was equally unproductive. Feeling, thereupon, entirely certain that a thrombus filling the sinus completely had been encountered, Dr. Whiting incised the parietal wall parallel to the course of the vein, from behind down to the bulb; there was no flow of blood following the incision, and the exposed clot varied in consistence from a firmly organized resisting mass near the torcular to a collection of thin, foul-smelling pus with some stringy inspissated lymph, which adhered closely to the vessel walls at the bulb.

The proximal end of the opening, in which was the greatest quantity of pus, and where the disintegration of the thrombus was complete, was packed with iodoform gauze, that its contents might not mingle with, and further infect, the contents of the distal extremity of the sinus.

With a curette the sinus toward the torcular was quickly cleared of its obstructing contents, and a copious flow of blood allowed to escape momentarily unchecked, with the expectation that any loose infective particles might in this manner become detached and expelled; the bleeding was then controlled by packing iodoform gauze into the lumen of the vein, and the curetting applied with diligence downward to the jugular bulb, from which much thick, ropy pus and granulation of putrid odor was removed, also a considerable quantity of what appeared like cholesteatomatous material, but no flow of blood was established, notwithstanding the fact that the curette was passed through the posterior lacerated foramen into the jugular vein; pressure below on the neck from the clavicle upward in the course of the vein was also inefficient, and all attempts to restore the circulation from this direction were abandoned.

The opening in the sinus and the wound in the skull were now thoroughly flushed out with a solution of bichloride of mercury, 1 to 5,000, and as rapidly as possible packed with iodoform gauze.

After the skin of the neck and chest had been cleansed and the region made aseptic, the internal jugular was exposed throughout its entire length, and after being raised from its sheath was ligated in the inferior carotid triangle half an inch or more below the level of the clavicle, and also at its emergence from the skull; the facial vein, which was patent and which bled upon being intentionally wounded near its junction with the oblique, was likewise ligated. When first exposed, upon opening the neck, the jugular did not pulsate and felt as if filled with a soft cruoric clot; this proved to be precisely the case, for upon splitting the vein between the ligatures a soft fibrinous clot was encountered which was easily stripped with the fingers from its endothelial lining; this clot was evidently a very recent extension into the jugular, for it did not seem to be organized or even firmly adherent in any part and was free from odor. Low in the neck as was the ligation, it is Dr. Whiting's belief that the coagulation extended still deeper, probably quite to the innominate vein, but was acting a conservative part, forming a barrier which prevented the dissemination of the disorganized infective thrombus above. The wound was drawn together at the centre with a stitch and was packed with iodoform gauze above and below. The vein was not resected. The side of the head and that of the neck were then dressed with iodoform gauze, over which a layer of bichloride gauze was placed and the whole covered with cotton and bandaged.

The operation lasted an hour and a half, during which time the patient required free and constant stimulation; upon her being returned to bed, hot-water bags were applied to the feet and epigastrium, and transfusion of normal salt solution at temperature of 105° F. was made into the cellular tissues of the abdomen, sixteen ounces in amount. She rallied promptly and appeared stronger.

On August 3d, ninety-six hours after the operation, the packing was for the first time removed entirely from the wounds of the skull and neck. Up to this time the outer dressings only had been changed. Upon removing the packing from the distal end of the opening in the sinus there was free hæmorrhage, and fresh packing of iodoform gauze was quickly introduced, and easily controlled the flow.

She complained of some pain in the left arm just over the outer condyle of the humerus, and the tissues, feeling somewhat indurated and looking slightly reddened, were poulticed; the following day deep fluctuation could be felt and an abscess was opened and six ounces of pus were evacuated.

During the next five days the patient's condition improved gradually. She took more nourishment and appeared stronger, but upon August 12th, the fifteenth day after operation, she became suddenly delirious, and when free from restraint attempted to leave the bed; her delirium was active for about one week, and then slowly began to mend, and in two weeks had entirely disappeared. On August 22d there was detected a small abscess in the sterno-cleido-mastoid muscle, about in the middle third, in opening which the incision was carried directly across the course of the external jugular vein, which vessel was divided. The cut ends of the vein thus exposed were greatly thickened, appearing to have the firm tense walls of a large artery, and gaping widely instead of collapsing, as is usual with a vein; there was no clot to be seen in the lumen, but notwithstanding this fact no blood escaped from either end of the divided vessel.

The wound in the neck closed in six weeks after the operation; the healing seemed to be much retarded by the presence of the jugular, which should have been resected, Dr. Whiting thinks.

The features of special interest in this case appear to Dr. Whiting to be:

First.—The fact that the portion of the tip of the mastoid, which was not removed at the first operation, must have been carious at that time, although appearing healthy, for when the sinus operation was performed, this portion of the process was as soft as punk, and the disintegration of the clot at this point was much further advanced than elsewhere, an indication that the infection was most virulent in this neighborhood.

Second.—The presence of a clot extending the entire length of the internal jugular vein quite to its union with the innominate, also the complete obstruction of the current in the external jugular with the marked thickening of the vessel walls.

Third.—The entire absence of all acutely inflamed lymph nodes in the neck along the course of the occluded vein, notwithstanding the fact that there was marked tenderness, and upon incision its walls were materially thickened and softened, satisfactory proof of the existence of phlebitis.

Fourth.—The omission to resect the vein after its double ligation was an error; for the infected vessel did not become completely organized, but a portion of it sloughed and retarded the healing of the neck wound considerably.

Fifth.—That no pulsation of the occluded sinus could be seen or felt, and that its parietal walls were free of any lymph granulation or pus. That packing of the distal end of the opened sinus is unwise; for its removal displaces the organizing clot, delays healing, and invites infection; very moderate pressure of a gauze pad when re-enforced by the tight bandage is an entirely efficient hæmostat.

Sixth.—The sudden attack of delirium, very active for several days, and then diminishing in intensity until her cerebration became normal, about fourteen days later. This attack suggests the likelihood of a small, non-infective cerebral embolus.

Seventh.—The length of time intervening between the operation and the last metastatic manifestation, twenty-eight days, must make a surgeon very guarded in his prognosis, even after a considerable period has elapsed and when his patient shows every sign of speedy convalescence. In the present case there seems a reasonable probability that had not the main avenue of approach to the lungs—*i. e.*, the jugular—been obliterated, some of the septic material which was later so widely disseminated must have found its way thither.

Eighth.—Another indication of the virulent sepsis in this case is afforded by the fact that every hypodermic injection the patient received during the operation produced a superficial abscess varying in extent from three quarters to an inch in diameter. The house surgeon vouched for the cleanliness of his needles, and promptly administered a hypodermic to himself with the same needles and remedy, without unfavorable consequences.

Ninth.—The entire subsidence of the acute inflammation of the kidney, with complete restoration to the normal function of that organ in thirty days after operation.

Case III.—A German woman, aged twenty-three years, married, applied for treatment at the infirmary on November 26, 1897. She had suffered with amygdalitis two weeks before, and upon recovering from this illness first experienced pain in the right ear five days before. When a small child she had had otorrhœa following measles, but the discharge had ceased, and she had been free from it until the present attack.

Physical examination showed a tympanic membrane very red and slightly bulging in the supero-posterior quadrant. In this same quadrant there was a small perforation from which a scanty purulent discharge oozed. The mastoid region was negative to inspection, and tender only over the tip upon deep pressure.

She was admitted into the hospital at once, and leeches were applied to the mastoid. Leiter's cold coil was ordered, with hot bichloride-of-mercury irrigation every three hours. Upon her admission her temperature was 100.2°; pulse, 104.

This treatment was continued forty-eight hours, when, the tenderness of the tip having subsided, it was discontinued. At this time her temperature was 99°; pulse, 88. She continued in the infirmary, complaining of moderate deep pain radiating from the ear over the whole side of the head. On December 5th, this pain increasing somewhat and having a throbbing character, it was decided to open the mastoid, which was done under ether at 11.30 A. M., at which time her temperature was 98°; pulse, 90.

The usual mastoid incision exposed a small and narrow process, the cortex of which was at no point eroded. Upon opening the bone with a chisel and rongeur, a diploic mastoid was encountered, in the antrum of which were a few drops of offensive pus. The cells of the tip contained no pus and but few granulations, yet from the antrum downward and backward to the sigmoid groove the bone was carious. In removing the carious wall over the sinus with a rongeur, a small spiculum of bone broke off and punctured the sinus. The fragment of bone was removed with a forceps and the sinus allowed to bleed for an instant, to favor the expulsion of any septic matter from the vein, if such had been introduced. The hæmorrhage was easily controlled by a gauze pack laid over the opening and not thrust into it; more carious bone along the groove was removed toward the bulb until the structure seemed healthy, when the wound was packed with gauze and patient returned to bed.

On the seventh day the œdema of the lids of the right eye had almost disappeared, and œdema of the lids of the left eye was first noticed. She had a sharp chill with a rapid rise of temperature to 104.2°.

On the eighth day there was great pain over the whole side of the head; there was tenderness along the course of jugular in the neck, but no induration to be felt. An operation was steadfastly declined.

On the following day her husband insisted upon removing her from the hospital, and the house surgeon was ordered to dress the wound; he removed all the packing and irrigated the opening. Noticing a clot, he removed it with forceps, when a rapid hæmorrhage from the sinus took place—about five ounces—easily controlled by gauze dressing; in fact, it had nearly ceased spontaneously before the dressing was applied.

The next day she was removed to her home against

Dr. Whiting's urgent protest, and at this time not only was there tenderness in the superior carotid triangle, but a distinct cordlike infiltration was plainly to be felt.

After thirty-six hours at home she applied for readmission to the hospital, and upon December 18th was again accepted for treatment.

She now appeared to be failing rapidly. The color in her cheeks, which she had retained until now, faded. The pain in the head became more severe, œdema of the left eyelids and brow again appeared, and double neuroretinitis could easily be diagnosticated with the ophthalmoscope. Her friends, recognizing the unfavorable change, urged her to consent to an operation, which was performed on December 22d. The ligation of the jugular as the first step in the operation having been determined upon, an incision was made along the anterior border of the sterno-cleido-mastoid muscle, extending from a point just below the lobule of the ear as far downward as the superior border of the clavicle. The fascia was opened and the sterno-mastoid muscle raised from its bed. This step was accomplished with the utmost difficulty, the muscle for the upper two thirds of its extent being firmly glued to the underlying layer of fascia as a result of inflammatory infiltration. After this dissection a number of large, acutely inflamed lymph nodes were encountered, which were removed, and one very large node lower in the neck, which was apparently not acutely involved.

The search for the internal jugular was prolonged, for no trace of it was to be seen beneath the thickened fascia, and it was necessary to uncover the common carotid before the sheath of the jugular could be recognized and separated from an agglutinated mass of muscle and fibrous tissue.

When the jugular sheath was opened, the vein beneath the omo-hyoid lay like a broad red ribbon, quite collapsed and apparently containing no blood. A ligature of catgut was passed around it as far down in the neck as possible, just about at the level of the clavicle, and firmly tied. Immediately after its ligation the vein filled with blood for about two inches above the ligature, probably from a thyreoid vein, as the pressure from it was very slight.

The sheath of the jugular was now opened its entire length, as near as possible to its point of emergence from the skull, and ligated a second time. The portion of the vein lying above the omo-hyoid muscle was firm and round, of about the size of a large lead-pencil, increasing gradually in bulk as it approached the bulb. It was in this part of the neck that the acutely inflamed glands were found. The jugular was resected between the two points of ligation and close to them. From its proximal end a small, recently formed, jellylike clot escaped, which was without odor. From the distal end there oozed out foul-smelling, thick pus. The wound in the neck was now packed with gauze temporarily, and the former incision in the scalp, made at the mastoid operation, extended upward to within an inch of the vertex. A second incision was then made directly backward, toward the occipital protuberance, two inches and a half, at a level with the centre of the bony meatus. The flaps were retracted and the periosteum raised without difficulty. With a rongeur and chisel, the covering of the sinus was removed, the bone being softened toward the bulb and elsewhere hard.

All the descending portion of the sinus was exposed, and about an inch of the horizontal or lateral sinus. There was a small amount of lymph on the parietal sinus wall at the point where it had been injured in the mastoid operation. Elsewhere there was neither lymph, granulation, nor pus. The horizontal portion of the sinus appeared normal, dimpling easily under the finger, while the descending portion was firm and resisting, but not apparently dilated. It did not pulsate. The bone removed from this part of the process was very dark. Placing a small firm compress upon the horizontal portion of the sinus, Dr. Whiting incised the descending portion for an inch and a half. There escaped at once a small, soft, odorless clot. A curette was then introduced toward the bulb, and about two drachms of very foul-smelling thick pus and caseous matter were removed. The bulb was then syringed out with bichloride-of-mercury solution, 1 to 5,000, which brought away more offensive-smelling material. This portion of sinus was packed with gauze, and the incision extended upward the sinus wall well into the lateral portion. Copious bleeding followed, which was easily controlled by gauze packing not carried into the lumen of the sinus.

The granulations which had begun to grow in the antrum and mastoid following the preceding operation were curetted rapidly, and the bone beneath appeared quite firm and healthy.

The wounds were now stitched in part—that in the skull toward the occiput and toward the vertex sufficiently to bring the flaps down nearly to the old wound; that in the neck for its lower half, the borders of the deep fascia being approximated where possible. The open wounds were then packed with gauze, that in the neck lightly, that in the skull with firm pressure, then all bandaged with continuous bandage, a pad of cotton being placed over the left jugular to minimize pressure of the bandage around the neck.

So well had the anæsthetic been timed that the patient was quite conscious during the stitching of the last few sutures. Her pulse being very rapid and feeble, she was immediately transfused with normal saline solution, sixteen ounces in amount, introduced through the median basilic vein at the temperature in the reservoir of about 108°. The effect of this was instantaneous; the pulse became decidedly fuller and slower. Hot-water bags had meantime been placed over her cardiac region and at her feet. She had received during the operation frequent and vigorous stimulation by hypodermic injection. Two hours after the transfusion the pulse failed very rapidly again, and a fiftieth of a grain of nitroglycerin was administered hypodermically. The heart responded to this and did fairly well until two hours later, 9 P. M., when transfusion was once more resorted to. Prompt reaction followed. The transfusion was supplemented by external application of heat with water bags placed over epigastrium and at the extremities. The patient was very restless and tossed the arms about a great deal, complaining of intense thirst. This was in a measure alleviated by cracked ice and seltzer, with milk and whisky. At 2 A. M. there was another period of cardiac weakness, although not of such an alarming nature as the two already recorded, and the house surgeon injected six ounces of hot normal saline solution into the rectum with a Davidson syringe. Again the heart responded vigorously, and there was no further occasion for intravenous stimulation. The symptoms of shock grew gradually less pronounced, and at 9 A. M. she was resting quite comfortably, with occasional fitful moments of sleep, the temperature 99.2°, pulse 120, respiration 30.

At the end of four days, ninety-six hours after the operation, all the dressing of the wounds was removed, and the packing pulled out of the distal extremity of the sinus opening. This was performed with great care and the least possible force, the gauze being thoroughly soaked with bichloride-of-mercury solution, 1 to 5,000. Upon its removal there was no bleeding, and the gaping lumen of the vessel showed that the walls of the sinus had been tightly approximated about half an inch above the opening, by the combined pressure of the cerebellum behind and the cerebrum in front, which the added force of the gauze packing and bandaging had supplemented. The opening in the sinus was in contour like a four-sided pyramid each of whose faces was convex. At its apex the walls were firmly agglutinated, and resisted the pressure from the torcular.

The scalp and that portion of the wound in the neck which had been stitched united by first intention, and, as there were no signs of suppuration about any of the sutures, they were left in position.

The patient had been passing but a small amount of urine, and infusion of digitalis was ordered in half-ounces doses every three hours, which administration was continued for eight doses without any appreciable effect in increasing the flow of urine, which was still scanty, but with apparent cumulative effect upon the heart, whose action became slower and irregular with intermissions, the rate being about seventy-six. There was, however, no violent thrashing about of the heart to be felt on laying the hand over the præcordium. So restless did the patient appear at this time, the end of the fifth day after the operation, that Dr. Whiting decided, in view of the excellent effect of the previous transfusions, to once more resort to this measure, and three hundred cubic centimetres of normal saline solution, at a temperature of 105° in the reservoir, were introduced into the circulation through the median cephalic vein of the right arm. The effect was immediately noticed in the increased volume and steadiness of the pulse; the intermission, which, before transfusion, had occurred with every fourth or fifth beat, could now be felt but once or twice in the minute, and, although the pulse became more rapid, 120 to the minute, it was of a decidedly more satisfactory character. The digitalis was discontinued, and liquor potassii citratis ordered in half-ounce doses every three hours, with as much water as the patient could be induced to swallow.

An hour after the transfusion patient had a violent chill lasting twenty minutes, and her temperature immediately rose to 103°. Fear was entertained lest this chill might be a premonitory symptom of the formation of an abscess or a beginning septic pneumonia or enteritis, but during the following three days she continued to improve.

On the tenth day she complained of pain in the head just at the vertex. Nothing was seen, and an ice-cap was applied. On the next day there was œdema with deep fluctuation and swelling, and on the twelfth day an extraperitoneal abscess of the scalp was opened just over the superior occipital region; eight ounces of pus were evacuated, and the temperature, which had been 102°, dropped to 99.4°.

On January 9th, the eighteenth day after the operation, the temperature, pulse, and respiration were normal. The patient was allowed to sit up in bed, and on the twentieth day to sit in a chair beside the bed; after that her progress toward convalescence was uneventful.

The features of special interest in this case are several, the foremost of which, to Dr. Whiting, is the question of whether the wounding of the sinus at the mastoid operation was the source of infection which resulted in the subsequent thrombosis. This he questions, not with any desire of avoiding his responsibilities in the matter, for the mastoid operation was performed with the greatest possible care, and his conscience does not accuse him of having neglected any precaution which could insure a successful result, but because the outcome was so unexpected and so contrary to ordinary experience that he is loath to accept it as a criterion of the dangers to be apprehended from pricking the sinus; the injury was a minute puncture from a spiculum of bone. The same accident has transpired at his hands several times before, but always without subsequent complications. Another reason why he doubts the agency of the puncture in producing the thrombus is that the girl had her severest pain in the anterior aspect of the mastoid tip, where upon opening the process the structure was normal and free from pus.

The next most interesting feature was the infiltration of the neck and the agglutination of the cellular structures about the collapsed jugular, making it exceedingly difficult to find the latter. The extent of the purulent disintegration as far down as the omo-hyoid muscle, and the very small fibrinous clot which separated it from the blood circulating in the vein below, show that had the operation been long delayed, or the ligation omitted, the patient must have speedily died.

The rapid and satisfactory action of the venous infusion immediately upon finishing the operation, and again four hours later, as a stimulant to the heart action, depressed by the shock of operation, is worthy of note, and the apparently unfavorable action of the infusion four days later, which was followed by a chill, caused, it seems to the author, probably by using the normal saline solution at too low a temperature, 105° in the reservoir. Except for this unpleasant effect the infusion, in his experience, has proved most beneficial.

The reestablished circulation from the torcular is preferably controlled by a wad of gauze packed firmly upon the open vessel and not thrust into it; when supplemented with a tight bandage it is thoroughly efficient, and relieves one of the embarrassments of subsequent bleeding which follows the removal of a plug from the lumen of the vessel. In the bulbous portion the return circulation is better controlled by packing gauze into the vessel, for the crooked bulb clots firmly and rapidly, and removal of the gauze seldom excites hæmorrhage.

The fact that the patient suffered from but one metastatic abscess is accounted for by the low degree of toxæmia which she experienced up to the time of operation, and by the ligation and resection of the infective jugular. The facial vein at its junction with the jugular was occluded and insignificantly small. It was simply divided without tying. The neuro-retinitis was subsiding at the time of the report, and the case could go upon record as one of recovery after intraocular involvement.

The Antitoxine Treatment of Diphtheria in Detroit.—Dr. George Suttie, of Detroit (*Louisville Medical Monthly*, February, 1898), mentions the notable diminution in the death-rate, which, he says, led the Detroit board of health to decide to furnish diphtheria antitoxine gratuitously to patients too poor to pay for it, this also including patients under the charge of the city physicians, poor patients at the Harper Hospital sent there by the board of health, those at the Women's Hospital, and those at the Protestant Orphan Asylum. This was done from May 1, 1896, and the number of patients so treated up to February 28, 1897, the close of the official year, was as follows:

	Cases.	Deaths.	Mortality rate:
With antitoxine	374	47	12.56 per cent.
Without antitoxine.........	467	163	34.90 " "

In continuation of this series of observations are the following results from figures not yet made public, but furnished to Dr. Suttie by the board of health. From March 1, 1897, up to December, the following cases came under either the notice or the care of the board:

	Cases.	Deaths.	Mortality rate.
With antitoxine	305	32	10.49 per cent.
Without antitoxine..........	632	192	30.39 " "

The antitoxine employed by the board has been from the first that of Parke, Davis, & Co.

These figures, says Dr. Suttie, go to show that as experience in its use accumulates, and as both medical men and the public at large see the advantage arising from the use of antitoxine early in the diphtheritic invasion, there is attained a continued and steady improvement in results.

With patients in comfortable circumstances, assured of careful nursing, conscientious isolation, and the administration of a reliable antitoxine, there is very much, he thinks, to encourage the profession to expect a very close approach to the Harper Hospital figures—that is to say, a percentage of deaths not to exceed six or seven. This, he remarks, would certainly lift diphtheria out of the bad repute it has had hitherto of being one of our most fatal diseases.

The Boston Medical Society.—The programme for the last meeting, on Tuesday evening, April 12th, included a paper on Enteroptosis, by Dr. Gustavus Liebman, and one on Acute Anterior Poliomyelitis, by Dr. M. Gerstein, who was also to present a case of exophthalmic goître.

"**The Persecution of Dr. Cleaveland, of New York,**" says the *Louisville Medical Monthly,* "but shows how fast the medical world is forgetting the Christian maxim, 'Do unto others as you would have them do unto you.' Accused of having caused the death of a six-weeks'-old child, by the administration of salol and resorcin, he has been arrested and indicted for manslaughter, and many physicians have gratuitously spoken out against him, basing their opinion on the mother's *ipse dixit*. What is to become of us if we will on every occasion turn like wolves to rend the fallen? Are the rest of us infallible? Can it be possible that we never err? It is the opinion of the *Monthly* that such treatment of a physician by his fellows is infamous and cowardly. We all know how delicate a piece of mechanism a six-weeks'-old child is, and how even the masters of pædiatrics have been baffled and have made mistakes. Yea, and know how even these same *soi-disant* judges have made mistakes. To arraign Dr. Cleaveland before a court as a murderer is bad enough, but when the principal witnesses are self-appointed, and men from the ranks of his own chosen profession, who should be his friends, it is outrageous and unnatural."

Children's Toys.—In an editorial article with this heading, the *Archives of Pædiatrics* for April says:

"One of the most noticeable peculiarities of childhood is a tendency to become attached to certain things and to cling to them most persistently. The young child loves certain nursery songs, and never tires of hearing the mother sing them over and over. He loves certain stories, and listens with minute attention to their hundredth repetition. He becomes attached to certain toys and persistently goes back to them in preference to the new and more handsome ones, and clings to the old dilapidated doll in preference to the most gorgeous new one. All this is common knowledge to every observer of children.

"An explanation, or a partial explanation at least, is not difficult to reach. A child's mental capacity is yet undeveloped and his comprehension is very small. He knows and appreciates the old familiar doll and its few clothes. The new one, with its closing eyes and jointed limbs and its complex and elaborate dress, is beyond his small comprehension. It tires him as much to investigate and unravel all its mysteries as it does his lawyer father to master an intricate case. So he returns to the old one that he loves and comprehends without effort.

"If the child is content with simple toys, why force upon him those that he does not love so much? Why not follow the plain teaching of Nature and allow him to pass his early childhood in the most simple and contented manner possible?

"It is entirely true that he can soon be educated out of these simple tastes, too often at the expense of his own contentment and the happiness of those about him. When he has once formed tastes for less simple amusements he can not be forced back into the old ways of life. If he becomes accustomed to a multitude of toys and a mob of dolls, and daily expects something new, the time will come when his requirements can not be fulfilled. He has tried and has become tired of every amusement adapted to his own age and of that far in advance of it, and he becomes a burden to all about him.

"Mental development is gradual and is not of a sudden growth. The infant outgrows his rattle and ring, and the young child gradually grows beyond his simple toys. But there are then ready for him more elaborate playthings, and these in turn, as childhood advances, give place to books and games. Each period of childhood, youth, and age has its appropriate amusements. The child under judicious management passes from one stage to another and need not lack for entertainment from the cradle to the grave. It is doing him a wrong to force upon him amusements beyond his age and to coerce him into pleasures which properly belong to later years."

The New York Neurological Society.—At the meeting of April 5th officers for the ensuing year were elected as follows: President, Dr. Frederick Peterson; vice-presidents, Dr. Joseph Collins and Dr. J. A. Booth; recording secretary, Dr. Pearce Bailey; corresponding secretary, Dr. L. Stieglitz; treasurer, Dr. G. M. Hammond; councillors, Dr. B. Sachs, Dr. M. A. Starr, Dr. George Jacoby, Dr. C. L. Dana, and Dr. M. Putnam Jacobi.

The Treatment of Locomotor Ataxia by True Elongation of the Spinal Medulla.—The method proposed by M. Gilles de la Tourette and by M. Georges Gasne in the *Nouvelle iconographie de la Salpêtrière* for January and February is based on anatomical investigations which demonstrated to them that they could obtain an elongation of the medulla of fully two centimetres by means of forced flexion of the spine. Their clinical experiments were carried on for four years with a special apparatus and included forty-seven patients with ataxia, in twenty-two of whom almost all the symptoms were ameliorated; in fifteen only a few of the symptoms were ameliorated, and in ten no benefit was observed from the elongation. The painful symptoms, the genito-urinary troubles, and the motor incoordination especially were ameliorated.

A new series of cases which were observed in the clinic of diseases of the nervous system in the Salpêtrière from the 15th of July to the 15th of November, 1897, gave the following results: In twenty-one patients the treatment was carried out in a sufficiently prolonged and regular manner to enable the authors to appreciate anew the results that might follow this mode of treatment in tabetic patients. Seventeen out of the twenty-one patients received considerable benefit, principally in regard to the various painful symptoms, the genito-urinary troubles, and the motor incoordination; incontinence of urine, on the other hand, seemed to be only slightly influenced.

This percentage in comparison with the results previously announced may, perhaps, appear very considerable, but the authors state that it is not so astonishing in view of the fact that not all the ataxics who presented themselves for treatment were subjected to the apparatus indiscriminately.

Elongation, they state, should be refused to cachectic tabetics as well as to those in whom the disease assumes a very slow evolution; cases of arthropathy, those of laryngeal attacks, and those in which the manifestations are limited to the ocular apparatus under the form of paralysis of the muscles or of atrophy of the papilla should be eliminated from the beginning.

On the other hand, the estimation is somewhat more difficult, and can be based only upon direct experience, when it becomes a question whether—independently of the symptoms observed—the condition of the spine will permit the attainment of elongation and the benefits which should follow it. During flexion which is normal, in certain subjects the length of the medulla does not vary, or varies within limits insufficient to produce therapeutic effects. In others, on the contrary, flexion, instead of being unlimited, so to speak, becomes effected within very restricted limits. There are subjects, in fact, in whom it can not take place in consequence of a very marked fatness of the abdominal walls, which limits flexion.

In certain tabetics, generally of advanced age, the spinal column presents a very marked rigidity and, as the elongation of the medulla and of the roots is intimately connected with flexion of the anterior wall of the spine, the amount of traction that they can tolerate remains insufficient to produce it. In these cases this opinion is based—in order to reject intervention—on the fact that the subjects do not feel the temporary sensation of torpor in the legs during the treatment, which is the best proof of the realization of elongation and of a successful application of the apparatus.

The "Setting Time" of Plaster of Paris.—In an article in *Treatment* for March 24th, Mr. D'Arcy Power and Mr. James A. Belcher state that they have lately been in the habit of mixing the plaster of Paris with salt solution to cause its more rapid consolidation. The results appeared to be so satisfactory that Mr. Belcher undertook a series of experiments to ascertain what effect, if any, various substances in solution had upon the "setting time" of plaster of Paris, with the following results: Two drachms of plaster of Paris, mixed with one drachm of five-per-cent. solution of sodium chloride, hardened in two minutes. Mixed with one drachm of a five-per-cent. solution of sugar, it hardened in three minutes and a half. Mixed with one drachm of a one-per-cent. sodium-chloride solution, it hardened in five minutes. Mixed with one drachm of a 0.5-per-cent. sodium-chloride solution, it hardened in five minutes. Mixed with one drachm of a five-per-cent. calcium-chloride solution, it hardened in six minutes and a half. Mixed with one drachm of tap water, it hardened in nine minutes. Mixed with one drachm of distilled water, it hardened in nine minutes. Mixed with one drachm of saturated solution of sodium chloride, it hardened in eighteen minutes. Mixed with one drachm of a five-per-cent. solution of glycerin in distilled water, it hardened in nineteen minutes. Mixed with one drachm of a five-per-cent. solution of white of egg in distilled water, it hardened in twenty minutes. Mixed with one drachm of a ten-per-cent. solution of white of egg in distilled water, it hardened in twenty-five minutes. Mixed with one drachm of a ten-per-cent. solution of glycerin in distilled water, it hardened in thirty-three minutes. Mixed with one drachm of a twenty-five-per-cent. solution of glycerin in distilled water, it hardened in sixty minutes.

These figures tell, says Mr. Belcher, their own tale, and show that where it is of importance to make plaster of Paris set rapidly it should be mixed with a five-per-cent. solution of common salt, and this may be made roughly by adding a tablespoonful of salt to a pint of water.

A Case of Scirrhus Mammæ beginning in the Axilla.—The following case is related by Dr. C. E. M. Kelly in the *Lancet* for March 26th: The patient was a feeble old woman, nearly eighty years old. When she first sought advice it was found that there was a tumor as large as a pigeon's egg, of stony hardness, in the mid-axillary line on a level with the fourth rib. It was quite fixed, was adherent to the chest wall, and had ulcerated through the skin; at this time it appeared to be quite unconnected with the breast itself. The age and general condition of the patient rendered an operation inadvisable, so that the course of the growths was watched. It extended during the following months along the lower border of the pectoralis major into the breast, which became extensively involved. Retraction of the nipple took place and œdema of the skin, showing blocking of the lymphatics, and the case had the appearance of a typical slow-growing scirrhus, with the addition of the process extending into the axilla and the ulcer where the growth began. There was no glandular enlargement to be felt as yet. In this case the tumor apparently extended by continuity into the breast and did not start in an outlying and free nodule of glandular tissue.

The District of Columbia Antivivisection Bill.—The recent earnest effort of Dr. Welch and his Baltimore coadjutors to prevent the passage of this odious bill is, we are glad to observe, being seconded by Dr. Howard A. Kelly, who has recently sent out a circular of which the following is the substance:

There is a bill pending before Congress, entitled "A Bill for the Further Prevention of Cruelty to Animals in the District of Columbia." The number is senate bill 1063, calendar number 136. I write to ask you to take an active interest in opposing the passage of such a bill, which will seriously impede the progress of scientific medicine. While purporting to be a moderate bill and to ask only a little, it is in reality a most objectionable and restrictive, indeed prohibitive, one, and it is being pushed by people who do not hesitate to say that they desire ultimately to put a stop to animal experimentation of every sort. It is the desire of these well-meaning but misguided persons to make use of this bill, in passing it for the District of Columbia, as an entering wedge for further legislation and as a precedent for similar legislation in the various States of the Union.

No single case of cruelty in the conduct of animal experimentation in the District of Columbia has been proved, and if any real cruelty was practised existing laws administered by the Society for the Prevention of Cruelty to Animals abundantly provide for its punishment.

It will be seen by this that the work of the Humane Society, which champions this bill, is trenching upon and interfering with that of the Society for the Prevention of Cruelty to Animals, and in a most objectionable manner providing for class legislation and a system of espionage upon physicians and scientists as a class.

I can not in this brief letter go into details regarding the bill, but it is sufficient to say that a commission of non-professional persons are to have charge of the subject of animal experimentation, and have authority to interrupt, to demand explanations, to demand a report of work being done, to demand to know just what is to be proved by an experiment, and to harass the investigator and control him to such an extent that experimental work could be made practically impossible. Many useful and important lines of experimentation are prohibited altogether.

You probably know that in England Lord Lister had to go to the Continent of Europe to make some experiments, as, indeed, many others in England have preferred to do, and Michael Foster, whose *Physiology* is in all our hands, writes a personal letter, saying that he would willingly sacrifice all he has accomplished and spend his time fighting any restrictive legislation, if he had to go over the ground again. He urges us with all our power to oppose the specious pretenses of these people.

In a conversation I recently had with one of the prominent antivivisectionists he frankly stated that his design was to stop even the hypodermic puncture of an animal.

I need scarcely remind you where this would put us; not only would all physiological work stop, but no bacteriological experiments could be made with animals, no tests as to the relative value of suture materials, no new abdominal operation could be devised and tried beforehand, no more diphtheria serum could be manufactured in this country, nor could we obtain any more vaccine virus from animals; neither could we consistently import any of the animal serums or virus for use here, as the importation of these articles would manifestly create a necessity for the use of the animals abroad to secure the material.

I hardly need tell you that no man of any scientific prominence is in favor of this bill, and that the name of Lawson Tait, which they so often quote, shows at once the position to which we should be reduced by its passage. As you well know, Mr. Tait has done more to restrain the scientific progress of surgery by his opposition to the antiseptic principle than any other living man, even going so far as to state that he would be willing to pack his wounds with germs!

In case you do not know your senators to be opposed to the bill, if you have not already done so, will you not kindly at once write to your senators an urgent letter upon this subject, and do also what is of great importance, bring all the influence you can to bear upon their family physicians to secure personal statements from the senators to the effect that they will earnestly oppose the passage of this piece of pernicious legislation against physicians and biologists as a class?

The Illness of Mr. Gladstone.—The *British Medical Journal* learns that the condition of Mr. Gladstone's health is undoubtedly grave, and says it has authority to state that, though there is no immediate cause for anxiety, the future is looked forward to with great apprehension. Sir Thomas Smith has been unable, having regard to Mr. Gladstone's advanced age, to advise any operation for the local condition, which is, unfortunately, of such a nature that the resources of medical art can not do more than afford relief. Happily, it is possible to do a great deal to mitigate the neuralgia by which the nerves of the face have been affected for some time past, and we are glad to learn that during the last few days he has been comparatively free from pain. His strength is still maintained, his appetite is good, and he is happy to be once more amid the familiar surroundings of his home. Though cut off from many of the sources of intellectual enjoyment to which he has been habituated, he is able to derive much pleasure from music, and to enjoy conversation, in which on occasion he takes part with something of his wonted fire.

The Death of Surgeon-General Samuel Currie, C. B., M. D., Q. H. P., at the age of eighty-two, says the *British Medical Journal*, removes the oldest medical officer but one of the British army.

The Medical Profession in Germany.—During the academic year 1896–'97 the number of persons admitted to the medical profession in Germany was 1,284, showing a slight decrease as compared with 1895–'96, when the number was 1,374, and with 1894–'95, when it was 1,357. The largest number of admissions on record was in 1890–'91, when the output of new doctors in the Fatherland was 1,570. Taking the States forming the German Empire severally, the number of new admissions during the last year was in Prussia 556, in Bavaria 388, in Saxony 115, in Baden 88, in Alsace-Lorraine 43, in the Thuringian States 28, in Würtemburg 19, and in Hesse 16.—*British Medical Journal.*

The Maryland Ophthalmological and Otological Society, says the *Maryland Medical Journal*, was organized on March 29th, and is to meet on the second Thursday of each month.

The Baltimore University School of Medicine.—The *Maryland Medical Journal* announces that at the annual commencement, held on the 7th inst., the degree in medicine was conferred on fifty-four candidates.

The Medical and Chirurgical Faculty of Maryland, which is the State medical society, is soon to hold its hundredth annual meeting. According to the *Maryland Medical Journal*, the meeting is to be made the occasion of an effort—highly praiseworthy, we may say—to induce the country members of the medical profession of Maryland to join the organization in greater numbers.

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Original Communications.

DISEASES OF THE INGUINAL GLANDS AND THEIR TREATMENT.*

By BOLESLAW LAPOWSKI, M.D.

Diseases of the inguinal glands are due to either traumatism or infection. Adenitis of traumatic origin is of rare occurrence, owing to the protected position of the glands guarding them from injury. In the rare cases of contusion a lymphatic fistula may be formed, from which blood mixed with lymph exudes. This fistula can be closed by cauterization or by the removal of the injured gland.

The vast majority of diseases of the inguinal glands are traced to infection, transferred to the gland mainly by the primary local source of contamination. Direct infection of a gland, without preexisting primary lesion, outside of surgical inoculation with an infected instrument, is at present deemed hardly possible, as we shall see later.

The transport of the infecting matter by the lymphatic channels from the primary source of infection to the gland being the most important factor in producing gland diseases, the topographical distribution of the inguinal glands will be first considered. The glands of the groin are divided by the falciform process of the fascia lata into superficial and deep glands. Under the falciform process (1) we have the crural veins and arteries, with three or four deep glands, which gather the lymph from the deep lymphatic vessels of the lower extremities. Through the foramen ovale this space communicates with the glands above the falciform process, which are distributed around the saphenous vein, and vary in number between six and thirteen; the superficial glands arranged in two distinct groups—the larger one following the course of Poupart's ligament, the smaller pursuing a direction parallel to the longitudinal diameter of the lower extremity.

The superficial ganglion under Poupart's ligament may be divided into three groups: (2)

1. The internal glands, gathering the lymph from the perineal region.
2. A middle gland, for the genital organs, urethra, vagina, and cervix uteri.
3. External glands, for the internal surface of the buttocks and lumbar region.

The superficial ganglions, running parallel with the lower extremities, may be divided into:

1. A lower group, collecting the lymph from the foot and leg, and
2. An upper group, for the knee and external surface of the buttocks.

Both groups intercommunicate by numerous anastomoses.

When any infecting element has once succeeded in forcing its way through the protecting skin or mucous membrane of the parts controlled by the before-mentioned glands, it is first taken up either by the reticular lymphatic tissue or by the lymphatic channels, where, owing to the irritation produced by the infecting matter, an increased flow of serum takes place, which may carry away the poison, especially if it is liquid, to the gland itself, without any perceptible sign of irritation being provoked by its passage through the lymphatic channel. But often, when the coagulation of the serum fibrin occurs and the infecting agent is solid, the lymph can not bear away the leucocytes. Consequently, the infecting element retained in the lymphatic channels gives rise to lymphangeitis before it reaches the gland, where the advance of the micro-organism on its destructive errand will be stopped or hindered. Usually that gland becomes first engaged in the contest with the invading host the lymphatic vessels of which are rooted in the part primarily affected. The gland brings forward an opposing force of most active phagocytic elements, the uni-nuclear and multi-nuclear cells, which are the special product of the gland and are there present in large numbers (3).

To the opposing phagocytic cells hasten with support red blood-corpuscles, running on their vital errands through the enlarged arterial vessel, supplying the fighting cells with the needed war material, oxygen, thus increasing the vitality of the phagocytes. The micro-organisms are surrounded by the phagocytes, which discharge a fluid toxine, and, impairing the vitality of the microbes, swallow them and remove them from the system. The foreign bodies in the meantime protect themselves by emitting a poison (14) with which they weaken the vital powers of the phagocytic army, and if successful destroy the cells. Thus the usual condition of gland life is changed, and the course and character of the following adenitis depend upon the nature of the invading agent. If it can adapt itself to the changed surroundings, it will multiply and grow in the gland. Taking advantage of every opportunity, when the opposing forces are enfeebled, it will invade one gland after another, and the natural process of the system will seldom be sufficiently effective to free the organism from it; and sooner or later the organism will become the prey of the intruder. The results of this combat are known clinically as chronic adenitis, mostly of tuberculous, syphilitic, and neoplastic origin. In cases where the invading agent can not adapt itself to the changed surroundings, the phagocytes sooner or later will either destroy it, absorbing its toxic products and giving us the clinical picture of an acute bubo simplex, or bar its further advance, and keep it surrounded and imprisoned in the gland till it is eliminated by suppuration through an opening in the skin, which becomes involved in the process. This class presents the form of the acute clinical group of buboes. This group may be divided into three varieties:

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* Read before the Harlem Medical Society, January 10, 1898.

1. Gonorrhœal bubo, due either to the gonococcus alone (4) or to mixed infection either with staphylococcus and streptococcus or with the bacillus of a chancroid.

2. The second variety is solely caused by the bacillus of the chancroid—the Duckrey-Unna- and Krefting bacillus (5, 6, 7, 12). Neither toxines of the chancroidal bacillus nor of ordinary pyogenic germs have any part in its causation (38, 12). The clinical course and the aspect of the bubo depend entirely upon the vitality of the bacillus, which produces in one case a simple or suppurative bubo of a short duration, in another a virulent bubo, with a protracted period of healing.

3. The third variety—the syphilitic bubo—is caused either by the syphilitic virus alone or by the syphilitic virus combined either with the gonococcus or with the pus-producing microbes, or with the bacillus of chancroid.

In all three varieties the superficial glands are mostly affected in a shorter or longer period after the appearance of the initial local lesion. Sometimes the initial lesion may be overlooked, as in cases of small innocent excoriation, and, being unable to trace the adenitis to any local lesion, we are inclined to attribute the appearance of the bubo to direct infection of the gland. This is termed idiopathic bubo, the *bubo d'emblée* of the French. A careful inquiry into the previous history and a minute examination of the parts controlled by the gland will generally disclose the previous existence of a sore, possibly of trivial appearance, perhaps of remarkably short duration.

In cases when the adenitis appears two or more weeks after the healing of the local sore, some writers are prone to accept it as an indication of a threatened virulent bubo. Some regard the number of glands involved as an important distinguishing symptom (8).

The affected gland is enlarged in the direction parallel to Poupart's ligament, mostly round, movable, hard to the touch, painful with or without pressure, until fluctuation appears. Some buboes—namely, the simple—may be absorbed at that period, or may undergo suppuration. The skin, getting involved in the process, becomes red, thin in the most prominent point, while the base of the bubo may yet be hard (9)—the first symptom by which we can approximately predict the simple, non-virulent character of the coming suppurative bubo. From the clinical symptoms, taken separately or together (such as pain, redness, number of glands involved, form of the bubo), it becomes impossible to positively distinguish the simple acute bubo from the virulent form until suppuration occurs (8). Even microscopical examination of the contents obtained by means of a hypodermic syringe may fail to discover the guilty bacillus, which may be imbedded in the deep tissues, not accessible to the Pravatz syringe (10).

Only the character which the bubo assumes after opening, and the time required for healing, will give us the real clew to its cause (8). When the bubo is opened, be it artificially or naturally, the foregoing varieties assume a different aspect and run an entirely diverse course. While in the suppurative bubo, simple and gonorrhœal, the edges and the even floor have a healthy-looking aspect and are bright red in color, the opening of the virulent bubo is changed into a characteristic chancroid, with spiny toothed edges, uneven grayish floor, covered with pseudo-membrane, discharging from all parts of the base a chocolate-colored, dirty pus, which is constantly increasing, mixed with remnants of destroyed tissue. The opening has a tendency to enlarge, undergoing not a suppurative process, as in the simple bubo, but running a tissue-destroying course. If there are several openings, each one will have the same features, disclosing a characteristic chancroid sore. This will require weeks and sometimes months to cure, while the simple bubo will disappear in eight or ten days, provided the patient is not cachectic. A microscopical and bacteriological examination in this stage will reveal the cause of the different courses assumed by the bubo.

The pus of the simple bubo will show the absence of microbes of any kind. Cultures will remain sterile, but inoculation upon human beings may give positive results, producing a pustule, in the contents of which the Duckrey bacillus can be shown microscopically. The pus of a virulent bubo, while being sterile and inoculable, will reveal microscopically the sole presence of the Duckrey bacillus, capable of being stained (5). The bacillus can be even found in the tissues before suppuration takes place (13). Sometimes the microscopical examination fails to reveal the presence of the Duckrey bacillus, but that does not prove the absence of the bacillus in the contents, for inoculation of the contents upon the human body may produce a pustule containing the bacillus (11). The same often happens with the gonococcus and the tubercle bacillus, but there culture and inoculations upon animals help us to establish their presence and to judge the degree of the vitality of the microbe, while with the Duckrey bacillus there is at present no means of estimating its vitality, except by inoculations upon human beings, as the bacillus does not grow upon any known artificial medium. The capacity of being properly stained can not be accepted as a criterion for determining the degree of its vitality, after Buschke's (5) observation, where the vitality of the bacillus was impaired, although its form and staining properties were maintained.

As to the third variety, the syphilitic adenitis, the symptoms seen in the pure syphilitic bubo have some peculiarities of their own—namely, being multiglandular, bilateral, with flat, painless glands, of special hardness, and never suppurating, except when due to mixed infection. Then they run the course either of a simple suppurative or of a virulent bubo, according to the nature of the secondary infection. In all the foregoing varieties of acute adenitis the virus, so far being of local nature, is eliminated with the disappearance of the bubo; but matters are different in the second group of chronic adenitis, to which belong buboes of tuberculous, syphilitic, and neoplastic origin.

In chronic inguinal adenitis we may see cases which, although belonging to the simple bubo, take a protracted course, owing to the constant supply of pathogenic microorganisms from chronic lesions present in the region controlled by the affected glands, as in cases of chronic eczemas of the anus and lower extremities, and in varicose ulcers of the limbs. In such cases, sooner or later, the simple chronic adenitis will change into a tuberculous adenitis, as the lesions offer an open entrance to the bacillus of tuberculosis. This happens especially in cases of children, with constant eruptions on the buttocks and genitals, or with intertrigo of long duration. The opinion that such infection may be due to intra-uterine life is hardly acceptable, a tuberculous adenitis has never been seen immediately after birth. Glands so infected may undergo involution, leaving a hard, sclerotic nodule, perceptible for years, or may be affected by suppuration, ending in a small scar. Sometimes the issue is fatal when acute miliary tuberculosis is suddenly developed, being spread either by the thoracic duct or by the venous system (15). In cases of tuberculous osteitis, of tumor albus of the knee, and in coxalgia the inguinal glands are gradually involved, but they do not attain in the beginning so considerable a size as to attract the attention of the physician, as in cases due to tuberculous lesion of the rectum, anus, and genital organs. In circumcision, where the virus is directly transferred by mouth, we have a real tuberculous chancre, with specific adenopathies, as we find there not only the glands of both groins affected, owing to the anastomosis of the lymphatic vessels, but a pleiad of ganglions involved in the process, as shown in Hofmokl's case, where he removed thirty ganglions from a ten-months'-old child. Clinically, the tuberculous inguinal glands appear in two types: First, as isolated ganglions, the uniglandular and multiglandular adenitis; second, as agglomerated ganglions (*en pâquet*), the whole inguino-crural region being involved. The first type consists of one or several separately arranged glands, indolent, movable, remaining hard and fibrous for years, and sometimes undergoing calcification; but usually they suffer fatty degeneration, getting attached to the skin, which becomes red, discharging through the fistulous opening a dirty pus, until in favorable circumstances the wound will close and an adherent irregular scar is formed.

The agglomerated ganglia generally undergo suppuration in quicker time, forming numerous fistulæ discharging a putrid fluid.

The second group of chronic inguinal adenitis is represented by a form of gummatous syphilis (16) which attacks the gland alone. This form, although rare, is of great importance, as the consequences to which it may lead when unrecognized, and consequently not properly treated, are very serious. It may assume a phagedenic course, attacking the underlying large venous vessels, which become ulcerated, and producing a fatal hæmorrhage.

Virchow and Lancereaux were the first to mention certain cases of this form occurring in tertiary visceral or bone syphilis, and sometimes in hereditary syphilis. The glands are round, oval, elastic, of an uneven surface, from the size of a cherry to an orange, indolent, and movable from the beginning; later the skin breaks, and the mass suppurates, discharging thick grayish pus. It is seldom accompanied by other syphilitic lesions.

Both the superficial and deep inguinal glands may be included in the process at the same time (17). When suppuration takes place the affected gland presents a peculiar characteristic feature which helps to distinguish it from other affections. The gummatous process attacks the gland itself, markedly boring into the deep changed tissue which serves as a basis for the sore (18). This may be distinguished from suppurating virulent bubo by the character and clinical course; from tuberculosis, by the cheesy appearance of the glands and the result of specific treatment; from cancer and actinomycosis, by microscopical examination.

New growths in the inguinal glands are generally if not always of secondary metastatic origin. Only after excluding all other forms of disease of the inguinal gland, and after searching in vain for the primary seat of the neoplasm, a diagnosis, rather agnosis, of primary inguinal neoplasm may be ventured.

Of secondary new growths some are not met with at all in the inguinal glands, such as enchondroma, unless it is the broken head of the femur from a forced, unskilled attempt to bring it into position in case of dislocation (19); or only seldom, such as sarcoma and benign lipoma, while alveolar epithelioma and carcinoma are seen oftener. This is due to the frequent presence of carcinoma and epithelioma upon the genitals. The affected glands are hard, giving rise to lancinating and intermittent pains; they adhere to the adjacent tissues, and ultimately suppurate, discharging a bloody detritus of a *sui generis* odor. Speaking of new growths of the inguinal glands, the so-called Hodgkin's disease or pseudo-leucæmia may be mentioned, which by some is considered as an infectious disease. The inguinal glands are seldom attacked in the beginning. This usually results after the glands in the neck and axilla are involved in the process, which is of a severe character, combined with albuminuria and diarrhœa.

Parasites are represented in the diseases of the inguinal glands by the filaria sanguinis, echinococcus, and cysticercus (20). The filaria sanguinis attacks usually both groins, producing painless, soft, half-fluctuating swellings, of the size of a fist, with nodules felt here and there in the substance of the gland. The swelling is reducible, as the contents can be evacuated by pressure in the lymphatic channels of the abdomen. The skin is white, unchanged, not adherent. Sometimes the swollen inguinal gland is the only visible symptom of the disease, the filaria being only confined to the gland. Microscopical examination will reveal the parasite. This disease, known as "varicose groin glands," is met with in India, China, Brazil, Egypt, and often is seen in large tea-trading centres, such as New York. The echinococcus and cysticercus sometimes lodge in the inguinal gland and give rise to painless swelling, the true nature of which can only be established by the microscope.

On account of the present epidemic of the bubonic plague in India the part of the inguinal gland in this disease is worth mentioning. One particular feature has been noted. In the Chinese, who are mostly barefooted, the first buboes are formed in the groin, while in the Japanese, who are booted, the glands in the axilla are first attacked, owing to the different points of entrance of the virus into the system.

There is one more form of disease of the inguinal glands which stands alone by itself, and the name of which will hardly explain anything to us, as it is called rheumatic adenitis. Only a few cases are reported. They occurred simultaneously with articular rheumatism, and were benefited by the internal use of tincture of iodine or salicylate of sodium.

These are the most usual forms of the disease, due to a cause localized in the region controlled by the inguinal glands; but the physician often meets other affections situated in this region not attacking the gland, as herniæ and aneurysms. These may sometimes be mistaken for affected glands, and here the distinguishing points have to be remembered, in order not to commit a mistake, which may be followed by serious consequences.

The bubo with an acute course in its congested state may be taken for a swollen testicle, in case of cryptorchidism, when the testicle is retained within the abdomen, especially when such a patient suffers simultaneously from gonorrhœa. The presence of only one testicle in the scrotum, the peculiar and entirely different sensation felt by the patient when the swelling in the groin is touched, its softer consistence, and the position above Poupart's ligament will easily help us to arrive at the correct diagnosis.

When fluctuation in the bubo is established, we have to exclude the possibility of a hernia, free or incarcerated, an aneurysm of the femoral artery, or a varix of the saphenous vein, before we venture to puncture the bubo.

That this is not always an easy matter is shown by the fatal mistakes made by careful observers, who incised an incarcerated hernia, mistaking it for bubo.

Of the various manifestations of tuberculosis in the inguinal region only one form—namely, the so-called tumor albus, cold abscess—has to be considered here. A mistake is easily avoided by remembering that the cold abscess has a long, painless development, and is usually the consequence of an existing tuberculous affection of the bones.

In cases of glandular suppuration a fistula of the bladder, opening in the groin and producing an eczema around the skin, may be taken for a tuberculous gland affection (23). A careful examination is required to avoid mistakes.

The diseases of the inguinal glands being mostly due to infection, the treatment of the diseased glands can only have one course open—namely, preventive treatment—prophylaxis in its largest meaning. The greatest number of buboes are due to sores near or upon the genital organs, mostly acquired in sexual intercourse. As we have not yet reached the point of performing the sexual act antiseptically, or even aseptically, we are always exposed to some kind of infection. The moment contamination occurs, an attempt is sometimes made to prevent the infection reaching the lymphatic system, either by means of cauterization or by extirpation (24) of the local sore. Unless the virulent nature of the sore—the presence of the Duckrey-Unna-Krefting bacillus—is established, the use of cauterization or extirpation is entirely uncalled for. When once the infecting element involves the gland we are powerless to prevent it from taking its usual course—namely, to destroy the cellular tissue of the gland or be destroyed by it.

The advisability of all methods aiming to prevent or hasten suppuration is questionable, if not harmful. It is not in our power to prevent suppuration; it depends upon the nature of the infecting agent, the biology of which is at present unknown to us, and which is proof against all our interference. Suppuration in a bubo, due to the Duckrey bacillus with full vitality, can not be prevented, and there is no need to apply remedies which are credited with the properties of hastening absorption, if the bubo is a simple adenitis, as it will be absorbed without remedies as rapidly, with more convenience to the patient, by rest and non-interference. In order to successfully direct the treatment of a bubo the physician should know the character of the bubo he is dealing with; and when he is in doubt as to its nature, to act as he would in a case of virulent bubo. Here the physician will do best by avoiding any method of treatment which will produce irritation, either of the affected or adjacent tissues, as the doubtful benefit derived in some cases from applications is smaller than the injury sustained by their use.

Different means are used in this stage to prevent suppuration. The least objectionable and rather harmless are moderate cold or warm local applications. The brilliant dream of the older syphilographers of preventing suppuration by this means is beyond realization. The bubo will very often be absorbed after this application, causing one to believe that he has achieved the result by heat or cold, forgetting entirely that the nature of the infecting element was the chief factor in bringing it about. Any way, these applications, being harmless, are less objectionable than other means—namely, the use of tincture of iodine and compression.

The dermatitis produced by the application of iodine will only be an obstacle to the physician when his interference will be of real benefit to the patient, when he opens the bubo. Not only will the injured skin resist in a lesser degree the destructive process, in case the bubo should be of a virulent nature, but even the application of a bandage upon an irritated skin is rarely well borne by the patient.

As to compression, it is even more objectionable. It is almost impossible to produce absorption by compression in suppurative bubo. Its dangers are that the glandular capsule may rupture, discharging the infected pus in the adipose and periglandular connective tissues, producing cellulitis—a more serious and troublesome condition than the pre-existing bubo.

A new method is in vogue, by which its advocates expect to gain results which they failed to obtain from iodine, cold or warm applications. The method consists in injecting into the substance of a swollen or fluctuating bubo different medicinal preparations in order to produce involution, or to hasten the process of suppuration, or to accelerate the cure of the bubo, by the supposed disinfecting action of the medicinal preparation. The course of procedure is as follows: The skin is thoroughly disinfected; a T-shaped incision is made in the most prominent fluctuating part, two to four millimetres in size; the pus is pressed out gently and a suitable amount of fluid injected. The part is bandaged. The preparations mainly employed are iodoform, mixed either with glycerin or with vaseline (27), benzoate of mercury (25, 29), sozoiodolate of mercury, and nitrate of silver (22, 26, 28), one half to one per cent.

Authors (29, 30) who, before drawing conclusions as to the value of the method, have taken pains to establish the nature of the bubo treated, state that they failed to obtain the desired end when the bubo was a virulent one. The Duckrey bacillus was not killed, the pus preserving its inoculative power, and the bubo running the course of a virulent bubo, with all its characteristic features. Other writers profess to have obtained by this method the cure of the bubo in a shorter time than by any other method—namely, in a period of four, six, or eight days—the bubo disappearing without leaving a scar.

Their results are open to question, as they fail to state the nature of the bubo they had to deal with; it is possible that the good results are due to the benign nature of the bubo rather than to their method. Besides that, the method has other objections which will hardly recommend it to general use. The first injection is always associated with severe pain, owing to the destruction of healthy gland tissue by the remedy. That the pain is due to the destruction of healthy tissue by the remedy is shown by the fact that the second injection is less painful, and when suppuration is present at the time of injection there is no pain at all. The destructive action of the remedy upon the cells diminishes their resistance, allowing the microbes to multiply without hindrance, and secrete more toxic products, which, being absorbed, give rise to chills, high temperature, and general malaise, symptoms often following the application of iodoform (31) or nitrate of silver.

Guided by the principle *primum non nocere* (first of all, do no harm), the following procedure in treating a bubo will be the least objectionable and the most successful. When a bubo is brought before us, the skin is cleansed and covered with antiseptic gauze, using a very slight pressure; that is kept up until fluctuation is perceptible; then a small incision of one centimetre in length is made in the most prominent part, the contents are evacuated, even if the procedure is painful, and not irrigated at all (30), or a two-to-three-per-cent. warm, sterilized solution of salt is used (31). The incision is covered with iodoform gauze. The bubo will close in six to eight days if it was a simple one. In case the bubo was due to the Duckrey bacillus the opening will assume a chancrous appearance and the healing process will be protracted. We have only a small, single, chancrous sore, owing to the small opening made for evacuation. In case more chancrous openings should appear, an incision along Poupart's ligament is made, and the open wound, treated with iodoform powder and iodoform gauze, is allowed to heal by second intention. Healing by primary intention never occurs, as each stitch turns into a chancroidal sore. Sometimes the wound will assume a phagedenic appearance, involving the whole inguinal region, attacking the deep femoral muscles, even extending over the abdominal wall. In such cases the edges may be sometimes seared with the Paquelin cautery. Good results are also obtained from the application of iodoform powder or ointment; the last is preferable. Irrigations either with hot water or with a solution of 1 to 1,000 of chloride of zinc, or with 1 to 1,000 of permanganate of potassium, are also beneficial (32). Usually iodoform is sufficient to control the destructive progress of the disease. The time required is between four weeks and four months, provided the strictest asepsis is maintained.

Far simpler is the treatment in cases of varicose groin glands, actinomycosis, echinococcus, and cysticercus. A simple evacuation of the contents of the glands by an incision will relieve the patient from his affliction.

In diseases of the inguinal glands due to syphilis a general specific treatment is indicated. The treatment of neoplasms is entirely in the hands of the surgeon, whose skill is often demanded in the last, but not least, group of inguinal gland diseases—namely, tuberculosis. The method of treatment of tuberculous inguinal glands differs with the character of the tuberculous process and the number and conditions of the affected glands. In cases where only one gland is affected, being small and not exhibiting any signs of softening, enucleation is the best method to be employed. In cases where the gland is softened, fluctuating, an incision is made, the contents evacuated, a drain inserted, and five to ten per cent. of iodoform glycerin injected. But when several glands are involved, being large, adherent, and softened in places, an incision followed by either the application of the thermo-cautery or curette, with subsequent drainage, will give good results. As disinfectants, iodoform, either pure or with oil, salol, iodine, camphorated naphthol, and balsam of Peru are used.

Some authors advise interstitial injections of sterilized iodoform with oil or iodine, in order to disinfect the focus before incision and curettage are made. The danger after opening lies mainly in the spreading of the tuberculous process by the contents of the gland coming in contact with the adjacent healthy tissue. The assumption that the injected iodine or iodoform deprives the tubercle bacillus of its vitality to such a degree as to make it harmless to the adjacent tissue is sustained neither by clinical facts nor by the biological nature of the tubercle bacillus.

Lannelongue advises, in cases where a small number of glands are involved, injecting one or two drops of a ten-per-cent. solution of chloride of zinc into the periphery, not into the interstitial tissue of the gland. The injections are repeated at intervals of from eight to fifteen days. A fibrous sclerotic zone is formed around the gland, accompanied by severe pain, and the patient is restricted from motion for two or three days.

This method would be acceptable if, in case of failure to reach the desired end, the circumglandular sclerosis produced by the injection did not present an insurmountable difficulty for the physician in case it should become necessary to extirpate the gland.

The third category of tuberculous inguinal glands presents a mass of ulcerating, fistulous tissue, infiltrated to such an extent that it is hardly possible to separate the healthy tissue from the diseased. In such a condition a large incision will open the field, and the curette or the thermo-cautery will remove the ulcerating mass, opening the tuberculous field to disinfecting treatment.

The best disinfectant in such cases is boiling water (33), and a very ingenious manner of boiling the water in the cavity of the groin is advised by Bauby (34). He fills the formed tuberculous cavity with tepid water, and boils it by inserting the heated thermo-cautery point therein, keeping the point at a white heat. When the water evaporates more is added. The water assumes a greenish-gray color when boiled. The water reaches every niche of the ulceration and changes the sloughy appearance of the tissue into fresh-looking, clean granulations. The subsequent application, either of camphorated naphthol, or of iodo-glycerin, salol, or of sozoiodol, is of advantage.

Heroic treatment—the extirpation of all the affected glands—is rarely resorted to, as the condition of the tuberculous glands in the groin is different from that in other locations. Here the adhesions of the gland to the adjacent tissue are earlier, deeper, and extending to the larger blood-vessels of the lower extremities, thus making extirpation quite impossible.

Furthermore, the danger of inoculation by spreading the products of suppuration, and the habitual recurrence in such cases, as the glandular tuberculosis is mostly of secondary origin, limit extirpation to very few cases. It is only advisable when a single gland is affected, when cheesy degeneration or suppuration is absent, when the gland is not adherent to the surrounding tissues, and when the health of the patient is good. But a combined procedure, extirpation and curettement, is often possible, and advisable when extirpation alone is deemed impracticable.

Naturally, the general condition of the patient must be considered. Here saline baths and a sojourn at the seashore are very beneficial.

One more point in conclusion. What becomes of the rest of the gland which underwent suppuration, and in what manner are the functions exercised by the extirpated or destroyed gland reestablished? After cure there remains a small, hard nut, but whether this nodule is permeable to the flow of lymph is questionable.

As to the effects of the total removal of the glands, there are reported cases where elephantiasis either of the scrotum (35) or of the penis (31) or of one of the lower extremities (36) followed the removal of the corresponding inguinal glands, owing to the stasis of the lymph in the portion controlled by the gland. But such cases are exceptionally rare, and clinical observations prove that in most cases the flow of lymph is restored to its former condition, even if the gland is absent.

These clinical observations are supported by Bayer's investigations (37), which tend to show that the spaces and fissures in the fatty tissue are used as new lymphatic tracks, and a collateral flow of lymph is established in cases in which the old channels are obliterated. Only when erysipelas or repeated inflammation follows the extirpation of the gland, the formation of new lymphatic tracks may be prevented either by clogging of the existing lymphatic channels with the proliferated endothelium or by narrowing of the lumina of the spaces and fissures in the fatty tissue by infiltration. Then stasis of the lymph may take place, and elephantiasis will be the consequence.

Bibliography.

1. Rauber. *Lehrbuch der Anatomie des Menschen,* vol. ii, part i, p. 223, Leipsic, 1893.
2. Félizet. Note clinique sur les ganglions d'aboutissement des lymphatiques des membres. *Soc. de chirurgie,* Paris, 1893, p. 521.
3. Metchnikow, T. Les progrès des sciences dans l'études de la peste et dans la lutte contre elle. *Arch. russes de path., med. clin. et bact.,* vol. iv, f. 2, p. 134.
4. Hansteen, H. Vereiterung der Leistendrüsen durch den Gonococcus. *Arch. f. Derm. u. Syph.,* vol. xxviii, part 3, 1897, p. 397.

5. Buschke, T. Ueber Pathogenese des weichen Schankers und der venerischen Bubonen. *Transactions of the Fifth Congress of German Dermatologists,* 1896.

6. Rille. Zur Aetiologie der Bubonen. *Transactions of the Fifth Congress of German Dermatologists,* 1896.

7. Raff. Aetiologie der venerischen ulcerösen und nicht ulcerösen Bubonen. *Transactions of the Fifth Congress of German Dermatologists,* 1896.

8. Fournier. *Nouveau dictionnaire de méd. et de chir.,* Bubon, p. 762.

9. Lejars, Fel. *Leçons de chirurgie,* 1895, p. 200.

10. Krefting, R. Ueber vir. bubon. und d. Ulcus molle bacillus. *Arch. f. Derm. u. Syph.,* 1897, vol. xxxix, p. 51.

11. Montegazza, V. Contributo allo studio della patogenesi dell' adenite venerea. *Giorn. ital. d. mal. ven et d. pelle,* 1897, part 1, p. 5.

12. Colombini, P. Sulla patogenesi del bubone venereo. Ricerche sperimentali. *Atti della R. Accademia dei Fisiocritici di Siena,* vol. viii, 1897.

13. Andry, Ch., et Durand, V. Sur le bubon et son traitement. De l'extirpation des adenites suppurées de l'aine. *Gaz. hebdom. de méd. et de chir.,* 1897, No. 60, p. 709.

14. Buchner, H. Ueber die Phagocytentheorie. *Münch. med. Wochenschrift,* 1897, No. 47, p. 1320.

15. Schuchardt, Karl. Ueber die Reiskörperbildungen in Sehnenscheiden und Gelenken. *Arch. f. path. Anatomie,* 1888, vol. cxiv, p. 186.

16. Lustgarten, S. On the Subcutaneous Glandular Affections of Late Stage of Syphilis (gummatous or tertiary bubo or lymphoma). *Medical Record,* 1890, vol. xxxvii, p. 29.

17. Verneuil. Tumeurs gommeuses de la région inguinale. *Arch. générales d. med.,* October, 1871, p. 385.

18. Gold. Lymphoma gummosum. Bubo gummosus. *Przeglad lekarski,* 1892, p. 175.

19. Tillaux. *Traité de chirur. clin.,* 1894, third ed., vol. ii, p. 730.

20. Lancereaux, E. Maladies produites par les parasites animaux en particulier. Brouardel's *Traité de méd.,* 1897, vol. iii, p. 17.

21. Petri. Peste. *Deut. med. Wochens.,* 1897, p. 93.

22. Block, Felix. Ueber Bubonenbehandlung. *Transactions of the Fourth German Dermatological Congress,* 1894, p. 679.

23. Grünfeld. Eulenberg's *Real-Encyklop.,* Bubo, second edition, 1885, p. 556.

24. Poelchen. Beiträge zur Pathol. und chirur. Behandl. der Bubonen der Leistengegend. *Arch. f. klin. Chir.,* Langenbeck, 1890, vol. xl, p. 556.

25. Thorn. Behandl. der inguin. Bubon. von Hydr. benz. ox. *Deut. med. Wochsch.,* 1897, No. 32.

26. Cordier, S. Sur le traitement du bubon. *Lyon méd.,* vol. lxiii, 1890, p. 109.

27. Hayden. Iodoform Ointment Injections in the Treatment of Suppurative Adenitis of the Groin. *Amer. Jour. of the Med. Sciences,* November, 1895.

28. Nobl. Meeting of the Vienna Dermatological Society, November 22, 1893. *Arch. f. Derm. und Syph.,* vol. xxvii, p. 88.

29. Welander, E. Ueber Abortivebehand. von Bubon. mittelst Einspr. von Hg. benz. *Arch. f Derm. u. Syph.,* 1891, vol. xxiii, p. 379.

30. Deutsch. Ueber die Aetiologie und Ther. der Bubonen. *Centralbl. f. Harn- u. Sexual-Org.,* Nos. 7 and 8, 1897.

31. Hahn. Zur Aspirationsbehandlung der Leistenbubonen. *Mittheil. aus d. Hamburg. Staatsk.,* vol. i, p. 3, 1897.

32. Balzer. Un cas de phagédénisme chancrelleux. *Ann. d. derm. et de syph.,* 1897, vol. viii, p. 1110.

33. Jeannel. Traitement des tuberculoses chirurgic. suppurées par l'eau bouillante. *Gaz. des hôpit.,* Nos. 59 and 62, pp. 563, 595, 1893.

34. Bauby. Trait. des tuberculoses chir. par l'eau bouil. *Arch. provin. d. chir.,* 1894, No. 9, p. 541.

35. Mermet, P. Œdème éléphant. du scrot. et du memb. infér. gauche consécutif à un bubo blénno-strum. *Gaz. des hôp.,* 1894, No. 61, p. 570.

36. Ridel. Dauerndes Oedem und Elephant. nach Lymphdr. Extirpat. *Arch. f. klin. Chir.,* 1894, vol. xlvii, p. 3.

37. Bayer, Carl, Professor. Altes und neues über kranke Lymphdrüsen. *Arch. f. klin. Chir.,* 1894–'95, vol. xlix, p. 637.

38. Perry. The Ætiology and Treatment of Venereal Buboes. *Amer. Journ. of the Med. Sciences,* vol. cxii, No. 5, 1896.

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STAB WOUND OF THE HEART.

RECOVERY.

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It does not often fall to the lot of the practitioner in the country or a small town to treat wounds of the chest, especially of lungs, pericardium, and heart. Injuries of this description, if not fatal immediately, generally soon destroy life, but their prognosis is not invariably hopeless. Recovery nowadays occasionally takes place—oftener, indeed, than is usually imagined—and whenever such favorable result ensues the attendant circumstances are always worthy of being placed on record. I shall therefore now proceed to the narrative of a case in which the chest was perforated with a knife, and the pleura, lungs, and heart muscle cut, the latter near the apex, besides a wound to the temporal region of the head, and the patient made a good recovery, notwithstanding the grave injury which he had received.

Early in the evening of August 25, 1896, a man, G. L., twenty-six years of age, full of youthful health and vigor, English, a horse-breeder in this town, received an injury in the præcordial region, with a knife, and another in the temporal region, in a fight.

First Wound.—Clean cut, beneath the fifth rib, about an inch beneath the nipple and an inch and a half from the middle of sternum, more to the right; free bleeding; little gaping.

On probing: Wound three inches deep, penetrating the pleura, lunges, pericardium, and heart muscle at the apex.

Second Wound.—Scalp, about 2.5 centimetres, temporal region, somewhat lacerated over the left auricle; not significant. When I, assisting my colleague, Dr. A. Conrad, saw the patient he was lying on the floor in a livery stable. Blood issued slowly from both wounds; a pool of blood stained the blankets under him.

Both wounds were cleaned under all possible antiseptic precautions, hæmorrhage was checked, the patient was dressed and laid on a cot, and absolute rest was enforced. Later on we transported the young man to a hotel and employed two nurses (not professional, though). The temperature at this time was subnormal (97° F.); the pulse intermittent, feeble, first slow, then rapid, compressible, and scarcely perceptible (80); expression timid, surface cold, pale; muscular system relaxed; special senses blunted; loss of speech. Reaction followed at eleven o'clock the same night. The patient received a hypodermic injection of morphine sulphate and atropine; thirty minims of brandy with ice-cold water to drink, repeated at twenty-minute intervals, and aromatic spirit of ammonia and tincture of digitalis were prescribed for occasional use. We used also external warmth very freely and the catheter, having our patient in the dorsal decubitus with the head low.

In spite of the formidable nature of the injury, the patient was not unconscious. He looked like one half asleep, and was really in a drowsy condition. When addressed, he either paid no attention, or else answered after an interval slowly and in monosyllables without opening his eyes or manifesting any interest in his surroundings. Occasionally, however, he complained of headache and smarting of the wounds.

August 26th.—At 8 a. m., temperature, 102° F.; pulse full, throbbing; flushed face; injected conjunctivæ; restlessness; tongue dry and tremulous. Delirium, with symptoms of internal hæmorrhage; bulging of the intercostal spaces on the left, increasing dyspnœa. External bleeding not great. Nausea and slight vomiting; pain in the wound of the chest. To relieve pain we gave sulphate of morphine, two grains; solution of sulphate of atropine, six minims; with aromatic elixir, one ounce—a teaspoonful every four hours, when necessary. To the wound we applied hydrochloride of cocaine, six grains, with forty minims of water and thirty minims of glycerin, for smarting. The wound was redressed, the patient feeling better but feverish. Urine scanty. Pills of aloin, belladonna, and strychnine, one night and morning, were prescribed.

27th.—Temperature, 101.5° F.; pulse irregular and weak; surface cold, pale; nausea and vomiting; pain; restless; bowels moved; wounds cleaned and redressed every morning and night. Stimulants and limewater, with cold applications over the manubrium of the sternum, to check vomiting.

28th.—Patient resting better. The scalp wound washed; crusts removed; healing. Temperature, 101° F.; pulse irregular (98). No vomiting, but at 9 p. m. patient was at once uneasy, restless; temperature, 102° F.; pulse soft, rapid, and compressible, becoming weak and thready. Respiration rapid and shallow. Nervous condition heavy, apathetic, and somnolent. Tongue dry, hard, and discolored. Teeth covered with sordes. Increasing dyspnœa, flatness on percussion, and absence of breathing sound. Through the wound escape of bloody froth, accompanied by a hissing sound (traumatopnœa). Milk diet; hot beef-tea in very small quantities.

29th.—At 8 a. m. nearly same condition. Temperature, 100° F.; no albumin in the urine; constipated; ordered an enema, besides three cathartic pills. Increasing flatness on percussion on the left. Bowels moved at 9 p. m.

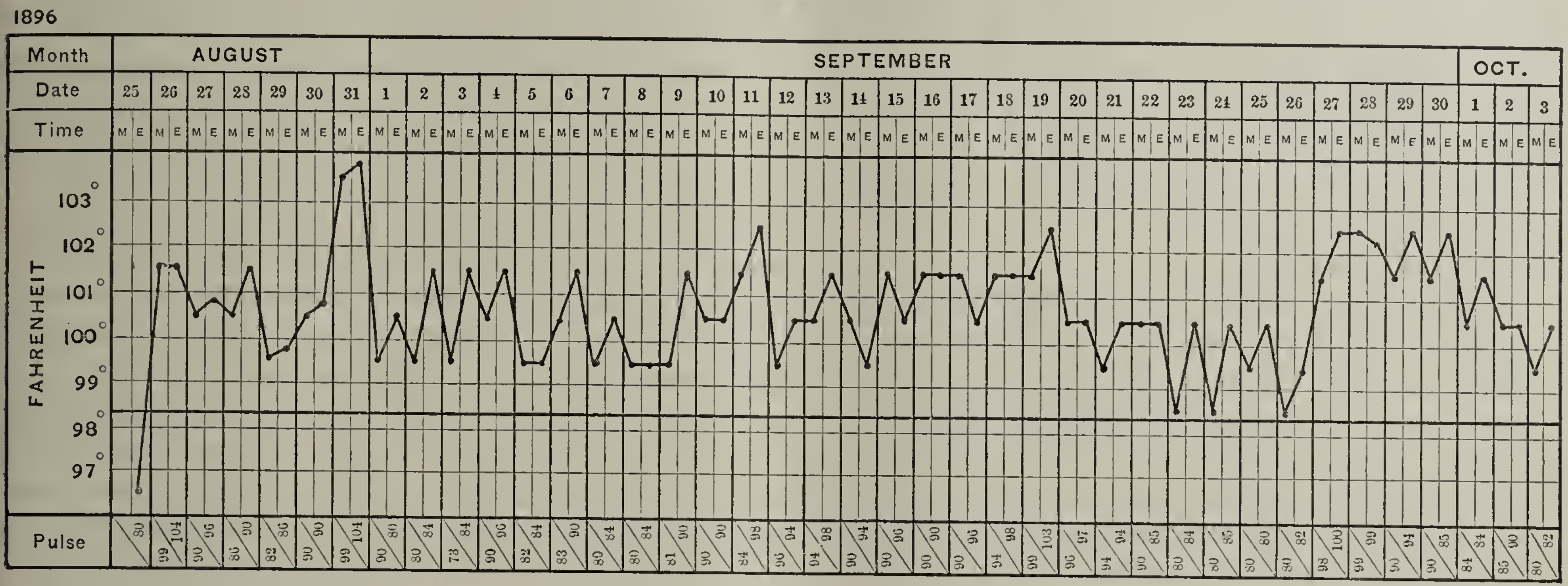
Thus, then, for four days subsequent to the injury there was on the whole no improvement; danger stared us constantly in the face. Consciousness was, however, distinctly less interfered with. Though he always lay as if he were asleep—and indeed did sleep a great deal—yet he could easily be roused, and when he spoke his articulation was faster and his replies were more prompt than before. He recognized those who were around him by their voices, not caring to open his eyes, though he could do so when he chose, and on several occasions he inquired about the pursuits of his friends—no visitors being allowed—and showed very much interest in his horses.

Next day (August 30th) pulse and temperature were more febrile, bulging of the intercostal spaces was more marked, with dyspnœa still increasing, and flatness all over the left side of the chest. These symptoms appeared gradually, and empyema and decomposition of clots were threatened. We prepared the patient and made an incision in the eighth intercostal spaces, in the axillary line, in a line with the angle of the scapula. Careful dissection was made, and two drainage-tubes were inserted, the smaller into the original wound and the longer through our opening up to the wound. We found extensive hæmatothorax, many clots and dark blood, which was allowed to escape. All possible antiseptic precautions were observed and free drainage was procured. Then again, the treatment of the case consisted chiefly of rest, quiet, cleanliness, nursing good as possible, and suitable supporting diet.

From August 31st up to September 2d the symptoms were grave, showing very little improvement. The temperature rose suddenly up to 104° F. The patient was in a critical condition, had frequent sighing, the previous sleepy state was less pronounced, the condition of the wound was satisfactory, and he made no complaint except of headache, and then only when he was moved for the purpose of dressing the wounds. He could now swallow with much greater ease; he protruded his tongue readily and without any lateral deviation; he frequently opened his eyes and recognized those who were in his room.

Between September 3d and 10th our patient always was between life and death; the change came suddenly, and the emaciation was progressing very rapidly in spite of washing out the thoracic cavity and cleaning the wound two or three times daily (with bichloride solution, 1 to 5,000, antiseptic dressing). His eyes were bright and his face was flushed, but changing. Urine scanty, of dark color. Nervous twitching marked, especially in the face. Left side of the chest was sinking in. Our orders in regard to the diet were not observed by the nurses, and ugly bedsores formed very soon. After that time the parts were kept scrupulously clean, frequently bathed with stimulating and astringent lotions, and sponging (water and alcohol, half and half) of the whole body was ordered; nevertheless, our patient suffered considerably, especially on account of profuse diarrhœa, the fæces being of dark color and passed involuntarily. This was due perhaps to the washing process with solution of bichloride or to general marasmus (*vide* temperature chart). Tonics and stimulants were administered at once.

During the next week (September 11th to 18th) his progress continued to be most unsatisfactory. Bichloride was abandoned, solutions of potassium permanganate and of peroxide of hydrogen were used for washing, and pills of tannic acid, acetate of lead, powdered opium, and camphor were ordered. We had to deal not only with constant delirium, but with stomatitis as a complication; for this we used listerine and mopping out the mouth at frequent intervals with a soft wad of absorbent cotton and iced water. Introducing a clean catheter through the original wound down to the posterior mediastinum, we found plenty of pus (about fifteen ounces). As soon as this was removed the pain in the groins and the region of the stomach, with desire to vomit, was gone. The bladder and rectum once more came under voluntary control.



From September 19th to 22d we got from eight to ten ounces of pus daily. Subsequent examination showed that our incision was healing and the drainage-tube came out with some *débris* of degenerated tissue. At this date it seemed that all immediate danger was at an end; but on September 23d the temperature, being 99° F. in the morning, rose suddenly to 101° F. in the evening, headache came on, vomiting made its appearance again, and the pulse became somewhat irregular. With the view of facilitating free drainage we made a new opening in the axillary line, in the ninth intercostal space. Local anæsthesia was produced by Schleich's method (multiple hypodermic injections of two cocaine solutions). The patient slept the rest of that night for the first time without any morphine or chloral-hydrate solution. For the threatening pyæmia we gave salicylic acid, biborate of sodium, glycerin, and peppermint water (Bartholow). The case continued to make favorable progress until September 27th, when the patient, being left alone, got up, walked around the room, and stood at the open window. It was a cool morning (39° F.), and pneumonia set in with all its stages. We tried our best, and the condition of the patient was in a few days more hopeful again. In the month of October he continued to regain some power, and at the end of November he was out of bed all day and rapidly put on flesh, appearing on the 3d of December, 1896, at nine o'clock in the forenoon in the court, to give testimony on his behalf and on the part of the State of Nebraska against his assailant. From that time the patient was in the open air all day; he could walk for a few hours continuously, and was quite free from any pain and tenderness on the left side of the chest. Throughout the progress of the case considerable trouble was frequently experienced from constipation, and on several occasions the bowels were obstinately loose again. The incontinence of urine was of the reflex variety. The secretion, when tested, was always normal. Washing of the thorax was continued and done once a day, and then once a week. When he again appeared before me to-day in his working dress he said: "I am well, but the lower wound is still discharging." In fact, this small opening, the scar on his head, and the scars on the chest, and some nervousness, are the only indications of his grave injury, and to-day, after a year and a half, the X rays (Meyrowitz's apparatus, which I used on the young man freely) show that there is no necrosis of the dorsal vertebræ or the ribs, and the small opening now remaining is only of a fistulous character.

The foregoing case suggests many points of interest. One of the first that presents itself has reference to the course of the knife to the heart muscle, the situation of the wound, and the symptoms arising therefrom. It seems clear that the puncture of the heart itself did not give much bleeding, owing chiefly to a peculiar arrangement of the muscular fibres of the heart described by Pettigrew, by which a wound which is transverse to one layer of fibres is in the direction of another layer, and therefore, to a certain extent, necessarily valvular. Ashhurst says that syncope is often observed in cases of heart wound, occurring not infrequently at the moment of injury. Pain, which was present, is, according to Fischer, due to the pericardial lesion; and the same author states that wounds of the heart are usually, though not necessarily, fatal; four hundred and one cases collected by him afforded as many as fifty recoveries, the diagnosis in thirty-three of the latter being eventually confirmed by means of autopsy. Cases have been recorded by Ferrus, Latour, Maixner, Janda, Fournier, Albert, Randall, Carnochan, Balch, Hamilton, Hopkins, Maly, Gallard, Tillaux, Conner, Hoffmann, Peabody, and others, in which patients have survived heart wounds for considerable periods, even though with foreign bodies lodged in the substance of the heart.

The main point of interest in connection with this case, therefore, is the fact that the injury was not fatal. Not only did the patient survive the accident, but he recovered, and is now, after a year and a half, according to the circumstances, well enough. Under such appropriate, strictly antiseptic treatment as we had at our disposition and could offer in the country, all alarming symptoms gradually disappeared, and the patient slowly progressed toward recovery, and now is feeling "like a new man."

THE CONNECTION OF NOCTURNAL EPILEPSY WITH RETRO-EJACULATION OF SEMINAL FLUID.

By ALLAN McLANE HAMILTON, M.D.

The detection of nocturnal attacks connected with pathological disturbances of consciousness must of necessity be often a matter of extreme difficulty, for the reason that such variations and those states of unstable inhibition make the line between the ordinary unstable physiological abolition of the ego during sleep and the abnormal seizures that occur at night (and are masked by an apparently normal sleep state) one that is extremely difficult to define.

Such pathological disturbances, for instance, as attacks of nocturnal epilepsy may and often do occur without any subsequent knowledge upon the part of the subject himself, except that he experiences in the morning certain vague ill feelings ascribed to ordinary causes, and occasionally he awakes at night, realizing that something unusual has just happened. Careful clinicians have sought, with moderate success, to detect definite indications of such attacks, and not only are these signs of value for the recognition of an existing epilepsy which has no manifestation during the daytime, but with reference to the possible medico-legal questions that may arise.

Such sequelæ of a night attack may vary, as all know, from the slightest feeling of malaise, such as headaches, dullness, conjunctival injection, transient increased activity of the patellar reflexes, and occasionally short-lived albuminuria, to such severe mechanical injuries as fractures or dislocations. Tongue biting, of course, is always looked for, and when found is a familiar index of an epileptic attack; in certain rare cases, clonic and tonic contractions or localized movements suggestive of cortical disturbances remain, which sometimes last even for a day or two after the attack, and Hirt, Trousseau, and others have detected vaso-motor changes, such as circumscribed spots, which appeared symmetrically on both sides of the body. Occasionally ocular remains of an attack are detected, and consist of a difference in the pupils or a concentric contraction of the field of vision. There are undoubtedly many ill-defined epileptiform attacks that leave little or nothing afterward to tell of their occurrence but the complete mental and physical prostration which begins in the early morning, often incapacitating the individual for the day, and which is sometimes serious and entirely without satisfactory explanation.

Le Grand du Saulc,* whose diagnostic skill in medico-legal matters is made up largely of the ability to recognize details, has published the cases of several individuals who were the subjects of *procès,* and whose crimes were explained and excused by the discovery of epilepsy of the nocturnal variety. In these cases the occurrence of occasional nocturnal incontinence of urine was regarded as so important as to lead subsequently to the recognition of other classical symptoms.

Such nocturnal incontinence in early childhood in connection with epilepsy I believe is much more frequent than is supposed, and may be the sole apparent feature of epileptic attacks that are confined to the night time for a long period. While such evidences of nocturnal epilepsy have for many years been familiar to me, as they doubtless are to others, I have never until lately appreciated the connection of ordinary sexual orgasm with epilepsy. Within a short time, however, I have seen a number of cases in which an apparently unusual symptom existed in connection with that disease, either for some time before the expression of any convulsion during the waking hours, or as a phenomenon of disturbed sleep of so serious a nature, so far as sequelæ were concerned, as to lead me to look upon it as a form of distinctly nocturnal seizure. These patients, who were adult men, complained of morning exhaustion, headache, and muscular weariness, and the other subjective malaise of ordinary epilepsy, and presented externally the aspect of exhausted persons. There was rarely any recognized cause, and no explanation. The occasional description of such an unusual symptom led me to investigate, and I have detected, I believe, a nocturnal epilepsy that consists of an orgasm with no external escape of a discharge, but simply a retro-ejaculation of seminal fluid. These attacks were not of necessity attended by voluptuous dreams, and were rarely remembered by the patient, although he was sometimes awakened by sensations of local muscular contraction and throbbing. The development of subsequent well-marked epileptic attacks in the daytime convinced me that these were not ordinary physiological acts of ejaculation, but were evidences of epilepsy.

Systematic examination of urine was not without its reward, and when there was nothing but the matutinal prostration, I found in the urine abundant seminal elements, which were not present at other times. The existence of a fresh tongue-bite upon one occasion was strong corroborative proof. That retro-ejaculation may occur is a fact long recognized. The discharge may be diverted by a number of mechanical agencies, and the condition is mentioned * as a cause of impotence.

Peyronnie † speaks of a prostitute who was able by introduction of her finger into the rectum of her companion during copulation to make pressure upon the urethra just in front of the prostate. So by this means the emission did not escape and impregnation was prevented. Van Buren and Keyes connect retro-ejaculation with various urethral defects, and the latter, in a personal letter to the writer, says that it is apt to follow cystotomy when extensive cutting down of the neck of the bladder has taken place. That it may occur with that form of thickening with vesiculitis which has received attention from Fuller * I have every reason to believe, for in many of the cases I have known there was some local trouble of this nature.

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* *Traité de médecine légale*, etc., Paris, 1886, p. 801 *et seq.*

* Van Buren and Keyes. *Genito-urinary Disease and Syphilis*, Revision, p. 429.

† Grimaud de Caux. *Physiologie de l'espèce*, Paris, 1847, p. 337; referred to by Van Buren and Keyes.

Whether such a condition of affairs is a cause or simply an episode of the epilepsy I am unable to say. If excitement of other peripheral parts precipitates cerebral discharges, there is no reason why an erethism of this region should not be considered, and Osler reports or refers to cases where testicular pressure provoked epileptic fits, and other writers are still more extreme in their claims of irritation of the genito-urinary organs as an ætiological factor. Romberg and older writers refer to the immediate production of epileptic attacks by coition. How much epilepsy is really due to onanism or sexual overindulgence is a matter of speculation, although it can not be denied that the induction of a frequent spasm of the small vessels of the cerebral cortex is quite likely to set up an habitual condition of disturbed equilibrium of the motor and sensory centres. That both nocturnal and diurnal forms in young children may follow the indulgence in a species of onanism described by A. Jacobi some years ago does not seem to me an improbability, especially if the child be of defective nervous organization.

While erotic dreams with emissions are to be looked upon usually as normal consequences of a deprivation of sexual gratification, and when the custom of the reputable physician is generally to calm the fears of the apprehensive individual, who may even be a hypochondriac, the question must arise whether under some circumstances the pathological explosions may not often really be an accompaniment or cause of some graver neurotic state. There can be no standard for the physiological relief of the sexual glands, for every case must be guided by itself; and while the teachings of Lallemand and the older French writers are to-day regarded as extreme, it may be fairly inferred, as has been said, that the brain centres may be so unstable as to lead to pathological orgasms and be connected with a condition of cerebral angeiospasm.

Without further considering the pathology of the condition it would seem advisable in patients, when such unusual nocturnal disturbances exist, not only to treat the local condition, if there be one, but to manage the case as one would an ordinary example of recognized epilepsy, and, when any medico-legal question exists, the urine should be subjected to a daily microscopic examination, and a careful watch be made for confirmatory symptoms.

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* *Journal of Cutaneous and Genito-urinary Diseases*, September, 1893.

MOBILITY OF THE KIDNEY:

ITS CLASSIFICATION, ÆTIOLOGY, SYMPTOMATOLOGY, COMPLICATIONS, PROGNOSIS, AND TREATMENT.

By H. EDWIN LEWIS, M. D.,
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Considering the frequency of nephritic displacement and the train of symptoms, reflex and otherwise, liable to result therefrom, it is a wonder that the diagnosis is so seldom made by the general practitioner. Indeed, so common have some authors found the condition that the statement has been made that one woman out of every five or six has a movable kidney. While this proportion may be open to question, it is certainly true that movable kidney does exist in many, many instances unrecognized by the attending physician. Possibly the reason for this fact lies in the difficulty encountered in palpating the kidney, for oftentimes the determination of its exact location calls for the highest amount of skill in physical diagnosis.

The acquirement of this skill, however, is within the reach of every physician, and if it is true, as some one has said, that the kidneys stand second only to the uterus and ovaries in the production of the many reflex ills we are continually meeting in our everyday work, then the necessity of acquiring such skill becomes at once apparent.

The kidneys are normally situated on the posterior wall of the abdominal cavity, imbedded in a mass of fat behind the peritonæum, which passes over their anterior surfaces. According to Gray, "their upper extremity is on a level with the upper border of the twelfth dorsal vertebra, their lower extremity on a level with the third lumbar. The right kidney is usually on a slightly lower level than the left, probably on account of the vicinity of the liver." Under normal conditions both kidneys are slightly movable, having a latitude of motion equal to about half an inch.

Movable kidneys are of two varieties, congenital and acquired.

The congenital movable kidney is commonly spoken of as a floating kidney, since it is suspended in the abdominal cavity by a mesonephron, which completely surrounds the kidney and tethers it to the abdominal wall. The acquired form never has a mesonephron and is seldom capable of such extended motion as the floating kidney or strictly congenital form. This congenital form of movable kidney is simply an anomaly. For some reason the peritonæum, instead of only covering the anterior face, becomes reflected entirely around the kidney and is then attached to the posterior abdominal wall. As years go by, the constant tension on the suspensory ligament or mesonephron caused by the weight of the kidney tends to draw it out and increase its length, and when the age of adult life is reached the kidney is indeed a floating organ.

The acquired form of movable kidney may be due to many causes, which are classified as predisposing or exciting.

The predisposing causes are chiefly sex and general emaciation. By far the greatest number of renal displacements occur in females, in about the proportion of twelve females to one male, this greater frequency of movable kidneys in females being undoubtedly due to changes in the visceral relations attending pregnancy and tight lacing.

General emaciation, however, is the principal predisposing cause of movable kidney, for when there is a diminution of the adipose tissue of the general body, there is also a corresponding decrease of the adipose tissue in which the kidney is imbedded. As a consequence the kidney is held less securely in place and much less force is required to detach it from its position. Thin people are therefore most prone to renal displacement, and it is extremely rare to find an obese person afflicted in this way.

The exciting causes of renal mobility are many, depending, of course, on the individual's occupation, sex, habits, and general condition; but those most common are falls, strains, frequent pregnancies, tight lacing, enteroptosis, enlargement of the liver, and the removal of large abdominal growths. Falls and strains are recognized most frequently as causes of movable kidney, for the symptoms which succeed such injuries are immediate and definite in their start; while in displacements from other causes the resulting symptoms, like the degree of mobility, are so gradual and insidious in their onset and progress that it is absolutely impossible to tell when they were first noticed. Furthermore, it is extremely probable that the majority of cases of movable kidney not due to falls or strains are the result of a multiplicity of causes rather than of any one alone.

Glenard maintains that all cases of movable kidney are simply part of a general visceral displacement; but this is not so, for many cases of renal mobility exist to a very marked degree with no determinable change in the position of the other abdominal viscera. It is true, though, almost without exception, that the strictly congenital form of movable kidney is the accompaniment of a general enteroptosis, and right here it may be emphasized that the fact of a displaced kidney occurring with increased mobility of the other abdominal viscera is practically the only sign which points to its congenital origin.

In regard to the removal of abdominal growths being followed by movable kidney, it may be said that such is more often the case than is generally supposed. The great changes in the relation of the abdominal viscera and the decrease of pressure resulting from the removal of large ovarian or uterine tumors is succeeded almost invariably by some degree of renal mobility, depending, of course, on the amount of emaciation present previous to the operation. This danger can be diminished to a great extent by making the rest following operations for removal of abdominal tumors longer and more complete, thus giving greater chance for the accumulation of fatty tissue around the kidney.

Several other causes can produce displacements of the kidney, but it is extremely rare to trace a movable kidney to a single cause, and, as has been said before, such a condition in almost every case comes from a number of forces which together produce a common result.

The symptoms of movable kidney are very variable. In most cases they are quite pronounced, but it must not be forgotten that the condition frequently does exist with absolutely no symptoms at all. Such cases are only discovered by accident or post mortem, and the patients go through life without a single sign to draw suspicion to renal displacement. These are the exception, however, and the local, reflex, and general symptoms which are usually manifested by a movable kidney are quite marked. Pain is probably the most constant symptom, occurring as a dull, constant ache in the back and lumbar region. After violent exercise, severe labor, long riding or dancing, this dull ache sometimes becomes excruciatingly sharp and lancinating, shooting down into the groin, and in the male occasionally causing retraction of the testicle. In the female the occurrence of the menstrual epoch seems to excite the pain of movable kidney, and such pain is often mistaken for that of dysmenorrhœa.

The nervous symptoms of renal mobility are manifold, being largely reflex in their origin. Irregular action of the heart and headache are the most prominent and frequent of these, but gastric and intestinal indigestion, constipation, menstrual disorders, and countless aches and pains can all be mentioned as common manifestations of the condition. The headache is many times quite severe, and referred by the patient to the top of the head. The general symptoms are also nervous in origin, and vary in degree all the way from slight neurasthenia to deepest melancholia or hysteria. As a usual thing the first symptom to manifest itself is some disturbance of the nervous system.

The diagnosis of renal mobility is not always easy. The history, however, of pain in one or both sides of the abdomen, a dragging sensation in the back, increased by exercise, together with pronounced reflex symptoms, should always prompt an investigation of the kidneys and their position. If they are displaced a careful physical examination will almost invariably discover the fact. Patients themselves frequently note the presence of a movable tumor in the abdominal cavity, which the medical attendant, on having his attention called to it, finds to be a displaced kidney.

The examination is best conducted by Israel's method of counter pressure, with the patient in the dorsal position. The bowels should previously have been freely moved in order to remove any fæcal accumulation which might be mistaken for the renal tumor. The clothes are completely loosened and removed sufficiently to expose the whole abdomen.

One hand is placed over the hypochondriac region, the other on the back opposite the normal position of the kidney, just below the last rib. Then, while deep pressure is made by the hand in front and counter pressure by the one behind, the whole side should be palpated, the patient at the same time being told to breathe naturally, flex the limbs, and relax the muscles of the abdomen as much as possible. The kidney is usually soon found as a distinct, renal-shaped body, quite sensitive to the touch, and giving rise to a peculiar sickening pain on pressure. Failing to determine the location of the kidney in the dorsal position, the hands should be placed as before and the patient examined while standing with the body bent forward over a chair. Still another way recommended by some is to have the patient assume the knee-elbow position, and this way may prove the most satisfactory of all. The choice of position depends largely on the examiner.

Now, it must not be thought from the brief description of these methods that the writer wishes to convey the idea that palpation of the kidney is always an easy undertaking, for many times it is absolutely impossible to find the organ. But with persistence and an average amount of skill every examiner ought to be able to locate an abnormally movable kidney with little or no trouble.

A differential diagnosis is the next thing which confronts the examiner, and this is often the most difficult part of the whole examination. Wandering or movable spleens may be mistaken for renal mobility, and Morris has demonstrated the fact that tumors of the gall bladder are extremely difficult to differentiate from movable kidney.

Wandering spleen, which by the way is a much rarer condition, may be determined by the tumor presenting the characteristic splenic notch, a change in the location of the splenic dullness, and the absence of the peculiar pain on pressure which characterizes the kidney. A distinct pulsation of an artery in connection with the movable organ should not be considered as conclusive evidence that such organ is the kidney, for while it is true that the renal artery is usually felt when the kidney can be found, the artery of the spleen may cause a pulsation indistinguishable from that of the kidney. Tumors of the gall bladder will give much more trouble when a differential diagnosis is being made. The reason for this is that movable kidneys occur most frequently on the right side, and present themselves as tumors in about the same locality as tumors of the gall bladder. Many of the symptoms, both objective and subjective, arising from these two conditions are almost identical, but the history of each, together with the fact that jaundice is seldom met in movable kidneys, while almost constant in tumors of the gall bladder, will aid much in the differentiation of both conditions.

The complications which may result from movable kidney are those attending torsion or twisting of the ureters and blood-vessels. After severe labor or exercise patients with movable kidneys which ordinarily cause little discomfort may have a sudden attack of nausea, vomiting, great pain in the kidney and stomach, severe chills, a slight rise of temperature, and complete prostration. The urine is decreased in quantity, and palpation of the kidney shows it to be much distended with fluid and exceedingly tender to the touch. These symptoms result from a twisting of the ureter, which thus prevents the passage of the urine and causes the condition known as hydronephrosis. Probably there is nothing that humanity suffers that can cause more real distress and agony than this condition. The excrementitious material of the retained urine soon begins to be resorbed, and in an exceedingly short time an active toxæmia adds its symptoms to those already present.

While the prognosis of hydronephrosis occurring in connection with movable kidney is much more favorable than from any other cause, it is still very dangerous to the patient and produces just as much suffering.

Pyonephrosis is extremely liable to supervene, and the added gravity of this condition is obvious. Other complications, like passive congestion, or even necrosis of the kidney, may occur from torsion of the blood-vessels supplying the organ, and these dangers are always to be apprehended.

The treatment of movable kidney is the next consideration, and because of the attending discomfort, as well as the great danger which constantly threatens the patient, it is a matter which assumes much importance. Since renal displacement, particularly of the acquired variety, is almost invariably preceded by emaciation and a decrease of the bodily fat, the theoretical treatment would be to restore that fat by appropriate feeding and rest. Practically, treatment laid down on these lines almost always results in failure, and it is highly improbable that a single movable kidney was ever permanently fixed by such measures.

As palliative treatment, however, these methods are very efficient, though by them we should never expect to permanently restore a displaced kidney to its original or even approximate normal position. Most of the text-books, particularly of four or five years back, mention the abdominal bandage as extremely serviceable in the treatment of movable kidney. As a matter of fact, no kind of abdominal support ever contrived can do much to remedy or even palliate a renal displacement. The anatomic position of the kidney is such that no bandage can keep it in place, and the amount of pressure required to even partially do so is liable to cause severe injury to the other viscera. Therefore, the only result that can be expected from the use of the abdominal bandage is the slight reduction of motion which naturally follows supporting and compressing the whole abdomen. For this same reason after a radical operation for fixing the kidney an abdominal binder can be worn to advantage, the object being to support the abdominal contents, especially during the acts of vomiting or coughing.

The only means which promise permanent relief to the symptoms resulting from movable kidney are those which belong to the domain of surgery. Nephrorrhaphy, or, more correctly, nephropexy, was first performed by Hahn, of Berlin. Since he devised his operation it has been performed many times, variously modified, but it must be admitted that up to the present day the results from the operation commonly described in the textbooks have too often been disappointing. With the fact of countless failures constantly before the profession many new and ingenious operations have been suggested during the last few years. The limitations of this article will not permit a criticism of all the various methods which have been presented. Some have had real merit and been quite valuable, while many have proved frank failures. But there have been two methods published recently which are really worthy of our attention, and these are the respective operations devised and practised by Reed, of Columbus,* and Senn,† of Chicago. Without going into detail, Reed's operation, after all the usual preliminary preparations have been completed, begins with an abdominal incision over the normal position of the kidney. The intestines are pushed to one side out of the way, and when the kidney is found it is placed in its proper position on the posterior abdominal wall. Then, with two straight needles six inches in length, sutures of silk, catgut, kangaroo tendon, or silkworm gut are passed through the cortical substance and brought out between the eleventh and twelfth ribs on the back. Using from now on Dr. Reed's own words: "After having passed the needles through the kidney, the lumbar muscles, and the integument, the assistant makes traction on them until they have passed entirely through all these structures. In the mean time the operator should place his finger under the ligature and by the touch satisfy himself beyond a question that it does not include a loop of the intestine. It should only include the peritoneal covering of the kidney and the kidney itself. He should also guard against drawing the suture too tight, but just sufficiently taut to hold the kidney in place.

"The ligature should be tied over a piece of gauze to prevent unnecessary irritation of the skin. There is nothing left to do now but close the abdominal wound, allow the suture to remain from ten days to two weeks, when it can readily be removed, which leaves the kidney free from all foreign substance. If deemed necessary, two or three sutures may be inserted, but I have not found it necessary to insert more than two in any case I have operated on, and in the majority of cases I have only used one, with the most satisfactory results." Dr. Reed's method is a very simple one, and the short time required to do it is a strong argument for its employment in cases attended by marked debility.

Dr. Senn's method, while more complicated, has, nevertheless, much in its favor, and coming from so high an authority is certainly worthy of careful consideration. His operation, which begins with Simon's vertical lumbar incision, is done entirely without sutures. As soon as the kidney is reached the adipose capsule is excised over the whole posterior surface and the fibrous capsule thoroughly scarified. The kidney is then pulled well into the wound by its capsule and the whole lower third of the organ is laid bare. A strip of iodoform gauze about an inch or so in width is now passed underneath the lower end, and by it the whole kidney is securely held with its lower extremity in the lower angle of the external wound. Iodoform gauze is then carefully packed into the wound, and when sufficient has been used to make quite a large tampon, the ends of the strip of gauze which holds the kidney in place are tied over the tampon. This tampon makes a sort of wedge which is far too large to allow the kidney to slip from its position, and thus the organ is held firmly in place until good strong adhesions have been formed. The notable fact concerning this operation is that no sutures are used at all. Additional gauze is put over the wound and the dressing completed by placing a solid pad the size of an adult fist over the kidney below the costal arch, the whole dressing being held by a good-sized strip of adhesive plaster passing completely around the body.

The patient is then put to bed with the pelvis slightly raised, and kept there in the dorsal position for four weeks, at the end of which time the kidney is usually well fixed and the whole wound nicely healed. Five or six days after the operation the tampon of gauze is removed and the granulating surfaces of the wound are pulled together and kept so by strips of adhesive plaster over a small absorbent dressing. Over this the usual dressing is applied, and the abdominal compression continued as before. This operation is thoroughly scientific and promises almost invariable fixation of the kidney, while at the same time the operator can feel assured that he is not running the risk of injuring the kidney by passing sutures through its parenchyma.

In regard to nephrectomy of the kidney, it may be said that it is rarely necessary, and should only be employed in those extreme cases in which the kidney is so far diseased as to be entirely useless and an irremediable source of danger to the patient if left in the abdominal cavity.

In completing this article the following conclusions may be formulated:

1. Movable kidney is a comparatively common condition, occurring more frequently in females than in males, the approximate proportion being about twelve to one.

2. Many causes may produce the condition of movable kidney, but more than a majority of all cases result from not one, but a multiplicity of causes.

3. The condition is always a menace to the health of a patient, liable as it is at all times to distressing and dangerous complications.

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* *Columbus Medical Journal*, October 26, 1897, vol. xix, No. 9.

† *Denver Medical Times*, December, 1897, vol. xvii, No. 6.

4. Non-operative treatment is never more than palliative in its results.

5. The operation of nephropexy, as advised respectively by Reed or Senn, promises permanent relief in the great majority of cases, the choice of operation depending entirely on the operator's familiarity and individual success with either.

6. Nephrectomy is rarely indicated, being the last resort when all other measures have failed.

Bibliography.

Osler. *Practice of Medicine.*
Anders. *Practice of Medicine.*
MacDonald. *Surgical Diagnosis and Treatment.*
Hamilton. Moullin's *Treatise on Surgery.*
Wyeth. *Text-book of Surgery.*
Tyson. *Practice of Medicine.*
Gould. *American Yearbook of Medicine and Surgery,* 1896 and 1897.
Columbus Medical Journal, October 26, 1897.
Denver Medical Times, December, 1897.
American Text-book of Surgery.

NOSOPHENE AND ANTINOSINE IN THE TREATMENT OF GENITO-URINARY AND VENEREAL DISEASES,

WITH REPORT OF CASES.

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In a former article * I incidentally called attention to the beneficial results obtained by the use of nosophene and antinosine in several cases of gonorrhœa and chancre, and, as further experience has verified the efficacy of these agents in various genito-urinary and venereal diseases, I feel justified in again bringing them to notice by way of emphasis, and also in citing a number of cases.

Nosophene is obtained by the action of iodine upon phenolphthalein in solution; it is a tasteless, odorless, grayish-yellow powder and contains 61.7 per cent. of iodine; it melts at 255° C., evolving iodine vapor, and is insoluble in water and acids, and very slightly soluble in alcohol, ether, and chloroform.

Owing to its acid character it forms salts with various bases; its sodium salt, called antinosine, is a blue powder very freely soluble in water, forming a blue solution.

As a cicatrizant, nosophene is vastly superior to all other agents used heretofore, and its advantages become evident even after a very short experience with it.

Its germicidal action has been proved by Dr. Lieven,† and, as dry wounds do not favor bacterial reproduction, its desiccative power undoubtedly increases its tendency to check suppuration. It promotes granulation, this effect being very noticeable in lesions of a syphilitic character, and being due to the large amount of iodine entering into its composition.

That it is unirritating and non-toxic has been conclusively shown by Dr. Seifert,* of Würzburg, and has been repeatedly verified in this country. It is odorless, which makes it greatly appreciated, especially in venereal diseases, and is also slightly anæsthetic, hæmostatic, and astringent.

Antinosine in solution has the same effect on inflamed, catarrhal, and suppurating surfaces that nosophene has as a powder; it paralyzes and prevents the escape of leucocytes from the vessels of wounds and irritated tissues without disturbing the circulation, and checks pus formation and accelerates the reparative process.

The deposit thrown down in a solution of antinosine which has been for some time exposed to the air consists of nosophene precipitated by the action of carbonic acid; the solution, obviously, can produce no harm if used in this state, although, if desirable, the precipitate is readily dissolved by boiling.

By the addition of a small quantity of glycerin to a solution of antinosine, decomposition is obviated, and it is therefore convenient to have on hand a ten-per-cent. stock solution in equal parts of glycerin and water, and to reduce it to the desired strength, when needed, by the addition of the proper quantity of water. In the various genito-urinary and venereal affections, in which these two remedies have been largely used, a marked improvement as to the length of time treatment was required has been noticed; and it has been gratifying to find, after an experience of two years, that these two agents have none of the defects which have proved so objectionable in other remedies used in the treatment of these cases.

Venereal ulcers, whether syphilitic or chancroidal, have been treated alike, but in those which afterward proved to be the initial lesion of syphilitic infection nosophene and antinosine have produced more prompt effect; the extension of the sores being rapidly checked, the sloughs disappearing, and the granulations taking on a healthy appearance; these results being undoubtedly due to the characteristic action of iodine on all syphilitic lesions.

If an ulcer is of a phagedenic character it is advisable to apply antinosine for several days, because, being soluble, it exerts more powerful action than nosophene, and the inflammation is more quickly controlled and, consequently, the sloughing and extension of the sore are checked. When this effect is obtained it is preferable to apply nosophene thereafter, which in ordinary cases, with little or no tendency to spread, answers every purpose, and its desiccative action is desirable.

The treatment of specific urethritis depends largely on the character of each individual case—*i. e.*, the severity of the symptoms and the portion of the urethra involved; the general condition of the patient at the time of infection having a marked influence, either good or evil, upon the severity of the symptoms and, therefore necessarily, upon the course of the disease.

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* *Codex Medicus,* February, 1897.

† *Münchener medic. Wochenschrift,* No. 22, 1895.

* *Wiener klin. Wochenschrift,* No. 12, 1895.

The adoption of the irrigation method of treatment, without a catheter, as used by Dr. Jules Janet, is a great improvement, and marks an era of advancement in the management of this class of cases.

It is impossible to appreciate it too highly, for it has been the means of laying the foundation of a rational and efficacious method of treatment in urethritis, after years of adherence to antiquated methods, which we must acknowledge have proved almost useless; in fact, it is believed by many that the routine treatment in vogue has been productive of more harm than good.

Many authors have stated that specific urethritis runs a fixed course, uninfluenced to any extent by treatment, and, while there is considerable truth in this statement, we must acknowledge that the fault has been with the methods practised, for, while a better knowledge of pathology and bacteriology has been productive of great revolutions in the methods of treating other diseases, yet this affection, until two years ago, has been treated the same as it was fifty years ago. Some very mild cases, as is well known, need very little treatment, but the moderately severe and virulent ones, especially those involving the posterior urethra, demand rational treatment, such as the pathology of the disease and the anatomy of the urethra indicate, and those who will take a little time to master the technique of urethral irrigation without a catheter, and will give it a trial in this class of cases, will never after have cause to state that treatment has no effect upon the duration of specific urethritis. It is not pretended that irrigation will perform impossibilities, or that this disease is shorn of all its unpleasant features, and that every case is cured in a few days—for I can not bring myself to believe the statistics of those enthusiasts who claim to cure a large percentage of these cases in three days—but I know that by this method it is possible to control the inflammation, to alleviate the severity of the symptoms, and to reduce the period of treatment to half the time formerly required. Solutions of mercury bichloride were first used; afterward potassium permanganate was substituted, with better results; but for almost a year I have made use of antinosine in solutions varying in strength from one fourth per cent. to two per cent.; it causes less irritation, is less liable to produce œdema of the penis, and has given uniformly better satisfaction. The strength of solution, the frequency and number of the irrigations, each vary largely according to the nature of the case; but I do not think daily irrigations are called for in any but a very small percentage of unusually severe cases involving the posterior urethra and bladder. Injections of antinosine solution by the patient are a valuable adjunct to the treatment and should be used from three to six times daily, according to the severity of the case; through their agency the glans and prepuce are thoroughly cleansed and kept aseptic, and secondary infection is prevented; the patient is also imbued with the idea that he is "doing something."

In addition to the measures mentioned, alcoholic drinks should be strictly forbidden and all exercise should be of a light character; the diet must be plain, and the bowels moved each day; internal treatment is uncalled for, except in those cases of posterior urethritis in which the bladder becomes involved, when potassium citrate, fifteen grains, given four times daily, is of material benefit.

Space forbids a description of the technique of urethral irrigation, and I can merely refer those interested in the subject to a very lucid article by Dr. F. C. Valentine in the *Medical Record* of June 5, 1897, which faithfully gives the most minute details.

As to apparatus, it may not be out of place to state that while the ordinary fountain syringe would seem at first thought to answer every purpose, yet this is fallacious, for one can not operate the cut-off with one hand, the nozzles are useless, and a more serious defect is that the lumen of the tubing is entirely too small to allow sufficient hydrostatic pressure.

F. A. Reichardt & Co., of New York, are the manufacturers of an irrigator following Dr. Valentine's ideas, which is admirable in every way and can be bought for far less than it would cost to devise and make an apparatus.

In the case of balano-posthitis, specific elytritis, cystitis, herpes, etc., cited below, nosophene and antinosine have proved equally beneficial, the length of treatment being unexceptionally shorter.

I append below a brief *résumé* of the cases treated with these agents, incidentally describing the methods used, and believing that this will give a clearer conception of their beneficial effects than any further general statements. To avoid useless repetition, cases of a like character, as to severity and symptoms, are described together.

Simple Urethritis, Four Cases.—The patients were instructed to use an injection of a one-half-per-cent. antinosine solution four times daily, and to take a warm bath every other night; light diet was advised, and all alcoholic beverages were forbidden.

Three cases required no further treatment after the first week, but the fourth case, still showing inflammatory symptoms, was directed to use the injections twice daily for another week, at the end of which treatment ceased.

Simple Elytritis, Eleven Cases. Uniform directions were given to use a douche of two quarts of a one-per-cent. antinosine solution, as warm as was bearable, each night and morning, preceded at night by a warm bath; complete rest was advised when possible. Seven cases were cured in two weeks' time, although they were instructed to continue one douche, at night, for two weeks longer.

The other four cases, proving more obstinate, were told to place in the vagina each night on going to bed a suppository containing the following:

Ext. belladon.	gr. $\frac{1}{8}$;
Plumbi acetas	gr. ss.;
Antinosine	gr. ij;
Ol. theobrom	q. s.

Curative results were obtained in these cases in from four to six weeks.

Abscess of Vulvo-vaginal Gland, Three Cases.—Two of these cases were of specific origin. Immediate incision was practised, the abscess cavity and vagina being freely douched with a hot two-per-cent. antinosine solution, after which the cavity was packed with about a half drachm of nosophene. The patients were directed to douche the vagina and external genitals thoroughly thrice daily with a one-per-cent. solution of antinosine, and each day nosophene was placed in the abscess cavity; a laxative was ordered with restricted diet and rest in bed. The non-specific case recovered in a week, the other two requiring treatment for three and four weeks respectively, on account of vaginitis, although the abscess cavities had healed in ten days.

Herpes Præputialis, Six Cases.—The following ointment was applied to the vesicles or ulcers three times daily:

Antinosine	gr. xv;
Adeps lanæ hyd.	q. s. ad ℥ j—

the parts being thoroughly washed with soap and water before each application and the patient directed to take a warm bath each night. At the end of a week, instead of the ointment, nosophene was dusted freely on the sores three times a day. Iron, quinine, and strychnine were given internally. No case required treatment for more than three weeks.

Chronic Cystitis, Five Cases.—Intravesical irrigation with a half-per-cent. antinosine solution was practised each alternate day for a week, and thereafter once each week.

Perfect quiet and plain diet were ordered, and all alcoholic beverages forbidden. Iron, quinine, and strychnine were prescribed, with ten grains of citrate of potassium four times daily.

For ardor urinæ in two cases, suppositories, consisting of extract of opium and extract of belladonna, were administered per rectum when necessary.

Specific Balano-posthitis, Four Cases.—The patients were directed to urinate and then inject the urethra with a one-per-cent. antinosine solution, and to suspend the penis for about five minutes in a solution of the same strength. The glans and prepuce were then dusted freely with nosophene.

This was done four times daily, and, in one case of a virulent character, six times daily. A warm bath was ordered each night.

One case was cured in ten days, the others in from two to three weeks.

Specific Elytritis, Four Cases.—As there was more or less involvement of the urethra in each of these cases, intravesical irrigation was practised every alternate day and the patient instructed to douche the vagina and vulva each morning, noon, and night with two quarts of a two-per-cent. antinosine solution as warm as could be borne.

Each night on going to bed the following suppository was placed in the vagina:

Antinosine	3 grains;
Boric acid	10 "
Extract of belladonna	$\frac{1}{8}$ of a grain;
Zinc sulphate	$\frac{1}{2}$ " "
Cacao butter	a sufficiency.

In two cases the pain was considerable, and a quarter of a grain of extract of opium was added to the suppository.

Plain diet and perfect quiet were enjoined. When the inflammation had largely subsided, which happened in one case after ten days' treatment, and in the other three after fifteen days, the suppositories and intravesical irrigations were discontinued, but the douches were kept up three times daily for a week longer. A week later the patients were told to use a one-per-cent. antinosine douche night and morning. The length of time treatment was required was respectively seventeen, twenty-three, twenty-five, and thirty-one days.

Specific Urethritis, Sixteen Cases.—In nine of these, in which the anterior urethra was alone affected, anterior irrigation was made use of once daily for three consecutive days, and after that on each alternate day for twelve days. At the end of that time three cases needed no further treatment, and the other six received an anterior irrigation every fourth day for periods varying from one to three weeks. Directions were given to wash the glans and prepuce thoroughly with a one-per-cent. antinosine solution, and to inject the same solution into the urethra four times daily; in addition, as much rest as possible, plain diet, and a warm bath each night were advised and strict injunctions given against alcoholic drinks and coition.

Fifteen grains of citrate of potassium were given four times daily, and for chordee, when present, half a drachm of tincture of hyoscyamus, twenty grains of potassium bromide, and five grains of chloral hydrate were given at bedtime.

Cures resulted as follows: Three in fifteen days, two in twenty-two days, one in twenty-four days, two in twenty-eight days, and one in thirty-five days—the last-mentioned case having been on several sprees, according to his own admission.

The seven cases in which the posterior urethra was more or less involved received intravesical irrigations daily for the first week, on alternate days the second week, and after that every fourth day, as long as the continuance of the symptoms required; all other treatment was similar to that advised in anterior cases.

Two cases were cured in twenty days, one in twenty-five days, two in thirty days, one in thirty-three days, and one in forty days, the last two requiring longer treatment on account of not obeying instructions as to coition and alcoholic drinks.

Chronic Specific Urethritis, Five Cases.—The urethra was injected with a four-per-cent. solution of silver nitrate at the time of application for treatment, and each day following, for a week, irrigation with a two-per-cent. solution of antinosine was practised. Each patient was ordered to wash the glans and prepuce, and to use a one-per-cent. antinosine solution as an injection four times daily. The same directions were given in regard to diet, coition, and alcoholic drinks as in acute cases.

The second week an irrigation with a one-per-cent. solution of antinosine was given each alternate day, and at the end of that time three cases required no further treatment. One of the two remaining cases received three more irrigations at intervals of three days before a cure was effected, and the fifth case was treated for six weeks.

Gleet, Three Cases.—Dilatation with bougies was practised three times weekly for two weeks, followed each time by intravesical irrigation with a one-per-cent. antinosine solution. The same treatment, twice a week, was used for the next two weeks, when one of the cases was cured. One of the remaining cases required treatment for ten days longer by irrigations on alternate days without bougies, and the third case disappeared after five weeks' treatment, no doubt to the sorrow of some brother practitioner.

Bubo, Five Cases.—Two were syphilitic, and the other three the result of specific urethritis.

In one of the syphilitic cases, which was seen early, five grains of antinosine to an ounce of water was injected hypodermically to endeavor to abort it if possible; no suppuration occurred, but whether this was due to the antinosine or not will have to be proved by further investigation.

In the other four cases pus was present and a free incision was made, the cavity evacuated and curetted, and a drachm of nosophene placed within. Each day thereafter the cavity was washed out with a three-per-cent. antinosine solution and nosophene again introduced.

No case was treated longer than three weeks.

Chancre, Six Cases.—Four of these, with little tendency to spread and no sloughing, were dusted with nosophene four times daily, after first washing the sore thoroughly with a three-per-cent. antinosine solution. Cures resulted in three, four, four, and five weeks and a half respectively. The other two cases, being of a virulent character with sloughing ulcers, were first cauterized with nitric acid and then covered freely with antinosine daily for a week, after which, the sloughs having come away, leaving a healthy granulating surface, the same course of treatment was pursued as in the above cases, healing being perfect in five and six weeks and a half.

Chancroid, Three Cases.—These were each cauterized at once with nitric acid, and directions given to wash the penis thoroughly, from four to six times daily, with a three-per-cent. antinosine solution, after which antinosine was dusted on the ulcer. After the inflammation had largely subsided, nosophene was substituted for antinosine. Cures resulted in five, five and a half, and seven weeks.

2012 MASTER STREET.

Therapeutical Notes.

Potassium Iodide in the Treatment of Bronchocele.—The following formula is given in the *Journal de médecine de Paris* for March 27th:

℞ Potassium iodide	1 part;
Ether	25 parts;
Soft soap	150 "

M. To be painted on at bedtime and covered with a cold-water compress; to be washed off in the morning with ichthyol soap.

An Ointment for Acute Articular Rheumatism.—The *Journal de médecine de Paris* for March 27th publishes the following formula:

℞ Sodium salicylate	30 parts;
Iodoform	10 "
Extract of hyoscyamus	5 "
Vaseline	100 "

M. Fiat unguentum.

Oil of Turpentine in the Treatment of Corneal Opacities.—Mr. G. A. Berry (*Edinburgh Medical Journal*, April, 1898) states that a good and not unduly stimulating effect may be got by the daily use of eye-drops made according to this formula:

℞ Oil of turpentine	1 part;
Oil of almonds	2 parts.

M.

The Treatment of Migraine.—A writer in the *Presse médicale* for March 30th says that antipyrine is unquestionably the best remedy for migraine. The dose must be varied according to the individual. The medicine is better borne by the stomach if seven or eight grains of sodium bicarbonate are added to the dose. If antipyrine fails, we may try caffeine. The following is given as Hirtz's formula:

℞ Caffeine, Sodium benzoate, } each	14 parts;
Peppermint water	250 "

M. A teaspoonful to be given every two hours until three or four doses have been taken.

Acetanilide also may be tried as an analgetic, but it should be given only in divided doses.

Phenacetine has the advantages of being hardly at all poisonous and of rarely giving rise to unpleasant effects.

Sometimes methylene blue proves effective. To prevent vesical irritation from its use we may give with it an equal amount of nutmeg, as in Immerwahs's formula:

℞ Methylene blue, Powdered nutmeg, } each	1½ grain.

M. Inclose in a gelatin capsule. Three or four such capsules to be taken in the course of a day.

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"OCULAR THERMOMETRY."

On the 18th of January Professor Galezowski read before the Paris Academy of Medicine a paper entitled *La thermométrie oculaire,* and he publishes the substance of it in the *Wiener klinische Rundschau* for April 3d. We all know now, he says, that the production of heat takes place in the depths of the tissues, as maintained by Richet, but that it is under the influence of the central innervation governing the activity of the heart and lungs. On making a close study of the complicated laws of animal heat and endeavoring to make out their relation to the nutritive conditions of the eye, he came to recognize that the normal temperature of the eyeball, as well as that of its annexa, varied with the age of the individual and differed to a certain extent from the general temperature.

The author then mentions the well-known variations of temperature dependent on the age of the individual, the period of the day, the part subjected to thermometry, the waking or sleeping condition, etc., from a consideration of which he has been led to propose to himself the question of whether or not observations of the temperature of the eye might be of service in the diagnosis and treatment of deep-seated ocular disease. The question, which he satisfied himself had not been dealt with by the physiologists, resolved itself into three others: 1. Whether or not it was practicable to measure the temperature of the normal eye. 2. What instrument would be best for such measurements. 3. Whether or not any good would result from ocular thermometry.

By several years' observations he has been led to the conclusion that the eye will tolerate the contact of a suitable thermometer long enough for the temperature to be registered. With the aid of M. Peuchot, a Paris optician, he has contrived a thermometer, the "ophthalmothermometer," which consists of a rectangular bulb slightly concave on the side that is to be applied to the eye, and with the glass very thin, so as to heighten the sensitiveness of the instrument. The tube is bent in two places, so that the graduated portion stands upright when the instrument is in place.

As regards the third question, that of the utility of ocular thermometry, M. Galezowski admits that he can not yet speak positively, for his experience thus far is not sufficiently rich. He feels confident, however, that his observations will eventually warrant him in stating that measurements of the temperature of the eye may be turned to good account in enabling us to note the development and progress of certain deep-seated ocular affections, such as chorioiditis, chorioid hæmorrhages, detachment of the retina, glaucoma, etc.

LEPROSY AND THE NOSE.

Dr. W. Scheppegrell, of New Orleans, one of the associate editors of the *Laryngoscope,* has a signed article in the April number of that journal in which, after remarking upon the heightened attention paid to leprosy of late years, as exemplified by an international congress devoted to the subject which lately met in Berlin, and giving a brief *résumé* of the conclusions arrived at by the congress, so far as any were reached, he presents the views of Dr. Sticker, who has made a very comprehensive investigation of the subject in India.

Sticker states that during the whole course of the disease that portion of the body from which leprous persons emit the greatest number of the bacilli that are supposed to give rise to leprosy is the nose. He has found also that of all parts the nose most readily receives the bacilli, so that in nearly all instances infection takes place by way of the nasal cavities. It is as usual, he implies, for leprosy to originate in the nostrils as for tuberculous disease to find its first lodgment in the apices of the lungs—he is speaking of proportions, of course.

With regard to the peculiar lesions found in the nostrils in cases of leprosy, Jeanselme and Laurens (*Bulletin médical,* July 25, 1897) have found that fifteen out of twenty-five lepers examined by them, the nervous form of the disease being excluded, had lesions in the nose and throat. Those authors state that often the first manifestation of leprosy is an ordinary chronic coryza, nasal obstruction, the formation of crusts, epistaxis, or the like—all supposed to be due to penetration of the Schneiderian membrane by Hansen's bacilli. One of the most important of the nasal manifestations is epistaxis. The nasal lesions that accompany it are such as to change the configuration of the nose. If the cartilage of the sæptum yields, the nose may become shortened and assume the form of a saddle-back. Rhinoscopic examination shows the Schneiderian membrane to be turgescent, eroded, and tumefied in the neighborhood of the lower portion of the sæptum, and in that locality the least touch may cause hæmorrhage.

At a later stage perforation occurs in the lower portion of the sæptum. When the perforation is recent, the portion of sæptum bordering on the opening is thickened and hard and bleeds readily. When it is old, the structure is thin and tubercles are often found in the mucous membrane. The sense of smell is not noticeably affected, but anæsthesia is observed, either in consequence of the presence of the tubercles or quite independently of any eruptive manifestation. Frequently the entire mucous membrane of the sæptum is destitute of tactile sensibility. The bacillus is found in the muco-purulent discharge of leprous rhinitis, and when there is epistaxis it is found in the blood.

The nasal mucus of lepers, says Dr. Scheppegrell, is extremely virulent, and it is supposed to convey the contagium of the disease in most instances. The lesions of the velum palati, those of the throat, and those of the larynx resemble the secondary or tertiary manifestations of syphilis, but the presence of anæsthesia establishes the diagnosis of leprosy. "Rhinology," says Dr. Scheppegrell, "which in former years was treated with the most contemptuous disregard in medical publications and but rarely referred to in the text-books, is thus finding its proper position as an important branch of medicine, and its study now ranks with that of the stomach, kidneys, liver, heart, and other organs as it deserves."

MINOR PARAGRAPHS.

SWABBING OF THE MOUTH AS A PREVENTIVE OF ASPHYXIA NEONATORUM.

At a recent meeting of the St. Petersburg Medico-chirurgical Society (*Presse médicale,* March 30, 1898) Batzevitch gave it as his opinion that it was necessary to free the mouth of the fœtus from mucus as soon as the head had passed the vulva, without waiting for the birth to be completed. He said that he had made this a practice for five years, and in that time had not witnessed any case of grave asphyxia. He bases his opinion on the following observations and reflections: During parturition it is only with the pains that mucus is eliminated by the child's mouth and nose, or at least the elimination is notably augmented with the pains. If starch boiled to the consistence of mucus is inserted into the mouth of a dead infant, no trace of it can be found in the trachea; but, if the chest of the cadaver is first compressed with a bandage, then the starch introduced, and finally the bandage removed, the starch is always found even in the pulmonary hilum. Therefore it is sucked in when the thorax is relieved of the compression; and, if this occurs in the cadaver, it must take place all the more readily in a living child after the expulsion of the thorax.

ICHTHALBIN IN DERMATOLOGY.

A. SACK (*Monatshefte für praktische Dermatologie,* September, 1897; *Centralblatt für Chirurgie,* March 26, 1898) says of this odorless and tasteless compound of ichthyol and albumin that it passes the stomach unchanged, to be dissolved by the alkaline intestinal juice and gradually split up into its component parts. He thinks its internal use is indicated in all kinds of inflammation and exudation accompanied by vascular dilatation, even in peripheral parts. Moreover, it regulates peristaltic action, increases the appetite, improves the general condition, and leads to a gain of flesh. It gives up sulphur in a form that is readily absorbed, and is therefore of special value in dermatological practice. In association with whatever local treatment may be required, it renders good service in rosacea, "stagnation skin diseases" (the eczematous affections of fat children), urticaria *ex ingestis,* pruritus, and strophulus, and assists the action of antisyphilitic remedies.

HYDRAMNIOS IN SEVERAL SUCCESSIVE PREGNANCIES.

IN the *Medical Sentinel* for April Dr. Carrie E. Lieberg reports the case of a lady who had four hydramniotic pregnancies in succession. She first aborted at eight months with a female child weighing six pounds whose head and face were perfect, but the body and limbs horribly distorted. This was the first pregnancy in the lady's fifth year of married life and twenty-third of age. Five years later a second pregnancy ended in abortion at the third month, a mass of about the size of a fœtal head being cast off, which proved to be an amniotic sac containing a fœtus of the size of a white bean, without any sign of placental attachment. Four years later the lady had married again, when at eight months another discharge of water occurred, and a male child weighing five pounds and deformed in the lower extremities was born. The placenta, as before, was exceedingly small. The child lived and with care has become a hearty boy, the deformities having been corrected. A subsequent pregnancy ended in abortion with a bag of water at the third month. The lady is healthy in every way, and has nothing peculiar in her family history, and her pregnancies and recoveries have all been uneventful.

MILK CONTAMINATION.

IN the *Journal of Comparative Medicine and Veterinary Archives* for April, Dr. M. P. Ravenel points out that the chief sources of contamination are (1) the animal; (2) the hands of the milker; (3) the dust of the stable. In regard to the first, he recommends keeping the udder of the cow, the inner side of the legs, and the belly clipped, and well brushing and wiping of the parts with a wet sponge before milking, as the moisture serves to hold in place those germs that have escaped the brushing. Careful washing of the hands and a frequently laundered blouse or linen duster are recommended for the milker; a separate milking room where possible, and under other circumstances cleanliness of the stable and the avoidance of stirring up dust before milking from the third precaution. The "fore milk" (first milkings) should be discarded, and the practice of lubricating the teats and the milker's hands therewith is especially condemned; vaseline, if requisite, should be used in place of it, as this helps to fix the germs. Care to exclude dust and maintenance of a low temperature are the principal precautions to be observed subsequently, while the vessels into which the milk is drawn should be steamed or boiled. Glass vessels are especially commended. Pasteurization—*i. e.*, a partial sterilization, the degree of heat employed being sufficient to kill all except spore-bearing (*e. g.*, anthrax, tetanus, etc.) germs—is insisted on; this is effected by heating the milk to 128° F. and keeping it at that temperature for twenty minutes.

THE EVILS OF OVER-LEGISLATION.

The president of the Royal College of Physicians of London, Sir Samuel Wilks, M. D., referred in his annual address (*Lancet*, April 9th) to the attitude of the college on burning questions—*e. g.*, unqualified practice, medical aid, hospital reform, and the midwives question. The president expressed the opinion that the college had to regard these and similar topics from a higher ground than that of self-interest, and to respect that individualism which was a characteristic of Englishmen, a view too little regarded by many who advocated active interference. He thought that but little good could come from the college joining with those who were forever crying out to Hercules for help and invoking the strong arm of the law to protect their interests, and pointed to the example set by Harvey and his compeers, who steadfastly pursued their labors in the midst of the turmoil of civil war. There is such a thing as *cacoethes legislandi* as well as *scribendi*, and this country is by no means free from the disease.

THE BLEACHING OF TEETH WITH PYROZONE.

At a meeting of the New York Odontological Society, held on the 19th inst., Professor Edward C. Kirk, of the University of Pennsylvania, gave an interesting address on the bleaching of teeth by means of pyrozone. He pointed out that the pink discoloration was due to the permeation of the tubules by hæmoglobin from disintegrated red blood-corpuscles, while the browner stain was due to the deposit of hæmatin from disintegration of the hæmoglobin. The speaker showed in two tubes the difference between blood which had undergone disintegration and that which had not done so, the former being clearer and more translucent, the latter murky and grumous. He then painted to a bright red a sheet of white blotting paper with the blood containing free hæmoglobin, and converted a portion of the hæmoglobin into hæmatin by the application of acid, thus turning it brown. The application of pyrozone at once bleached the bright red of the hæmoglobin, but had but little if any effect upon the brown stain of the hæmatin. Professor Kirk went on to state that he had had some success in this latter kind of discoloration by the application of oxalic acid after treatment with the hydrogen dioxide. It would be interesting to know whether similar results would follow the application of hydrogen dioxide and oxalic acid in the discolorations of the skin common in old-standing syphilis, etc.

THE BACILLUS OF SUNSTROKE.

The following (Montreal *Clinique*, April, 1898) is a description of the micro-organism found by Cagicol and Lapierre in the blood of patients suffering from heat apoplexy, which their studies in the biological laboratory of the University of Coimbra lead them to regard as the specific cause of that disease. It is linear, incurved, and slightly constricted in the middle. Viewed in the blood, it is from 2 to 2.5 μ long, and 0.5 μ in thickness; in cultures it is somewhat larger. It presents filaments, is slightly motile, but possesses no cilia, stains easily with aniline colors, but not by Gram's method. There are free spores in the cultures as well as in the rods. It is aerobic, does not cause fermentation in sugars, and does not give rise to indol. It grows between 30° and 37° C., but is instantly killed by a moist heat of 70° to 75° C.

THE TREATMENT OF SYPHILIS WITH THE SERUM OF MERCURIALIZED ANIMALS.

As might have been expected, it seems to us, Tarnowsky and Jacoobeff (*Wiener medicinische Blätter*, 1898, No. 7; *Monatsberichte über die Gesammtleistungen aus dem Gebiete der Krankheiten des Harn- und Sexual-Apparates*, iii, 3) have come to the conclusion that injections of the serum of mercurialized animals are of no use in the treatment of syphilis, and, moreover, that they give rise to fever, usually accompanied by a purpuric eruption, pains in the limbs, albuminuria, maxillary adenitis, and loss of weight.

SOLUBLE METALLIC SILVER.

It is related by Liebreich (*Therapeutische Monatshefte*, December, 1897; *Deutsche Medizinal-Zeitung*, March 28, 1898) that there is now in the market a preparation consisting of little hard, greenish, lustrous fragments which, on being powdered in an agate vessel, are perfectly soluble in water, and that the solution responds to all the tests for silver. On being heated upon a platinum plate, the substance turns white and becomes insoluble in water. It is one of the silver preparations that are supposed to be of service as antiseptics, according to Credé's experiments.

TWINS BORN IN DIFFERENT YEARS.

The *Deutsche Medizinal-Zeitung* for March 28th cites from the *Progrès médical* the case of a Jersey woman who gave birth to a daughter at ten o'clock in the evening of December 31, 1897, and to another one about two o'clock in the morning of January 1, 1898. The one born last was better developed than the first one.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 16, 1898:

DISEASES.	Week ending Apr. 9.		Week ending Apr. 16.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	15	5	12	0
Scarlet fever	150	17	265	16
Cerebro-spinal meningitis	0	7	0	12
Measles	425	22	198	21
Diphtheria	153	34	204	34
Croup	17	6	17	6
Tuberculosis	190	148	174	159

An Investigation of the Philadelphia Milk Supply.—The investigation into the quality of the milk sold in Philadelphia which was begun some time ago by two chemists, Mr. F. A. Genth and Mr. C. B. Cochran, under the direction of Mr. Thomas J. Edge, secretary of agriculture of the State of Pennsylvania, is now almost finished. It was thought that the milk supply of this city was very largely adulterated. The investigation was for the enlightenment of the State secretary of agriculture, and was made independently of the milk inspection bureau of the local board of health. Two hundred samples of milk were chosen, one fourth of which were from the milk delivered at the depots, one fourth from the cans of the dealers, one fourth from milk jugs in private houses, and one fourth in the various restaurants. It was found, however, that as a rule the milk was richer in cream than usual, while in some cases a notable absence of fat demonstrated very forcibly that the skimming process had been resorted to. The latter was more noticeable in the restaurants of the city, but, on the average, it may be stated that the milk is of a good quality.

The University of Pennsylvania raises its Standard for Graduation in the Dental Department.—The high standard which the University of Pennsylvania has always maintained in the college and medical departments is well known. In order that the entrance requirements shall be in harmony with those of the other departments, the university will hereafter require the following preliminary education in the dental department: For the session of 1898 to 1899, a certificate of high-school entrance; for the session of 1899 to 1900, a certificate of two years of high-school attendance; for the session of 1900 to 1901, a diploma of an approved high school having a three-years' course or a certificate showing three years' attendance at a high school having a four-years' course, or certificates from other schools showing equivalent education. In lieu of such diplomas or certificates the candidate will be required to pass a matriculate examination which shall be the equivalent of that necessary to obtain the certificates above mentioned. It is thought that the adoption of this course will have a check on the large number of students now in this department. Yet the faculty trusts that the public will appreciate the higher excellence of graduates from this school.

The City Board of Health's Reserve Sanitary Corps.—The following is an extract from the minutes of a meeting of the board of health of the city of New York held April 13, 1898:

"Commissioner Jenkins presented the following preamble and resolution, which were adopted:

"'*Whereas*, Conditions may arise requiring the employment of a large number of experts who have had experience in this department, to prevent the spread of pestilential or epidemic diseases; therefore be it

"'*Resolved*, That all persons who have been employed in this department during the past twenty years be and are hereby respectfully requested to send their names and addresses to the secretary at this office, said names to be placed on a roll to be known as the Reserve Sanitary Corps.'"

A Distinguished Benefit Performance for the Woman's Medical College Hospital of Philadelphia.—The distinguished French and Belgian artists Ysaye, Marteau, Gerardy, and Lachaume, who will shortly play in some of the largest cities of the United States, have consented to take part in the inaugural concert, on April 25th, for the above-named hospital. The Woman's Medical College has a wide mission, and takes a high rank among the list of medical colleges of this country.

A Case of Diphtheria among the New York Naval Reserves in League Island Navy Yard.—A few days ago a fire started on the tugboat Enterprise at the League Island Navy Yard, Philadelphia, which was adjacent to the monitor Nahant, recently assigned for coast defense work in New York. The crew of the Nahant was composed of the New York Naval Reserves, who were startled by fire at five o'clock in the morning. No sooner had they returned to their boat than it was announced that a member of the crew, who had been complaining for several days, was suffering with well-marked diphtheria. The vessel was promptly disinfected, and no subsequent cases have occurred.

A New Professor at the Medico-chirurgical College of Philadelphia.—Dr. Elwood R. Kirby, who for many years has been assisting Dr. J. William White at the clinics of the University of Pennsylvania, has recently been elected professor of genito-urinary diseases in the Medico-chirurgical College.

A Bad Example Followed.—The *Presse médicale* contains an advertisement beginning "Monsieur le Docteur," and proceeding to extol the virtues of a special preparation of castor oil. We have plenty of good points for the French to copy without their borrowing a style of catchpenny advertisement which savors of the familiarity of the cheap jack, and is totally unsuited to the dignity of a reputable scientific journal. "Doctor! you need a new visiting list," or what not, will soon be followed by "Gents! attention!" etc. If the French must borrow the practice, we trust they will not worry themselves about returning the loan.

The Medical Society of City Hospital Alumni, of St. Louis.—At the last regular meeting, on Thursday evening, the 21st inst., the following papers were to be read: A Report of Spontaneous Recovery in a Case of Axillary Aneurysm in an Infant, by Dr. William C. Mardorf; Modern Ideas about Blackheads, Pimples, Dandruff, and Baldness, by Dr. Joseph Grindon; and The Sanitary Redemption of Havana; the Need and the Means, by Dr. George Homan. Dr. L. Bremer was to give demonstrations of a number of original recently discovered sugar tests.

The Presidency of the British General Medical Council.—The *Lancet* announces that Sir William Turner, of Edinburgh, has been elected president of the General Medical Council of Great Britain and Ireland, in the place of the late Sir Richard Quain, M. D.

Improvement of the Municipal Hospital of Philadelphia.—Proposals have been received by Director Riter for the establishment of a steam-heating system in the hospital and for making other needed improvements in the buildings, for which purpose the city councils recently appropriated the sum of $10,000.

The Brooklyn Pathological Society.—At the three hundred and ninety-fifth regular meeting, on Thursday evening, the 14th inst., the following specimens were exhibited: Sarcoma of the lungs, by Dr. Archibald Murray; the stomach in a case of acute arsenical poisoning, by A. Ross Matheson; ovarian cyst in a child of six years, by Dr. H. Beeckman Delatour; double pyosalpinx with multiple peritoneal cysts, simulating extra-uterine pregnancy, by Dr. W. E. Butler; arterio-venous aneurysm of Scarpa's triangle; thyreoid extirpation with transplantation of a supernumerary lobe, by Dr. George R. Fowler; and double pyosalpinx with cystic ovaries, by Dr. Peter Hughes.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Pathology, on Tuesday evening, the 19th inst., the following papers were to be read: The Scientific Choice of Fabrics for Underwear, by Miss Mary Forster, of Newnham College, England; and Some Pathological Findings in the Blood, with an exhibition of slides and drawings by Dr. Albert E. Woehnert.

The St. Louis Medical Society.—At the last meeting, on Saturday evening, the 16th inst., the following papers were to be read: Remarks on Uterine Fibroids, with an Exhibition of Specimens and a Report of a Case of Perforation of the Bowel in Typhoid Fever, by Dr. W. B. Dorsett; and A Report of a Case of Suprapubic Lithotomy, with the Exhibition of a Specimen, and Suppurative Conditions in the Female Pelvis, by Dr. L. T. Riesmeyer.

The Indiana State Medical Society.—The annual meeting will be held in Lafayette on May 5th and 6th, instead of in Evansville, as previously announced.

The American Gastro-enterological Association.—The annual meeting will be held in Washington, on May 3d, under the presidency of Dr. D. D. Stewart.

The Question of Holding Two Public Offices at Once.—Several months ago Dr. Benjamin Lee, of Philadelphia, was appointed health officer of the city, with a salary of $7,000 a year. Dr. Lee is also secretary of the State board of health, with a salary of $2,000 a year. Since his appointment to the first-named position certain Philadelphia newspapers have been urging him to resign from one or the other office. One paper especially has been very active in this matter, and has gone so far as to make inquiry of him why he does not resign. It says that his statement was that he knew of no legal reason why he should not hold both offices under the State at the same time. It seems that certain applicants are eager to succeed him as secretary of the State board of health, and it was assumed that his appointment as health officer would necessarily relieve him of his official connection with the board. Instances have been cited to prove that he may legally hold both offices. The first president of the State board of health of Pennsylvania was the health officer of the city of Erie and continued to hold the office until his death. The secretary of the State board of health of New York was for several years health officer of the city of Albany. It is said that Dr. Lee's appointment as health officer of Philadelphia was made in opposition to the wish of politicians, and that he should give some valid reason for holding both offices when public sentiment is against him. The State board of health recently adopted a resolution unanimously requesting Dr. Lee not to resign as its secretary. Many eager ones are waiting to see what he is going to do about it.

The Teaching of Music to the Insane.—Mrs. Hughes, the wife of the chief resident physician of one of the Philadelphia hospitals, deserves great credit for her interest in the instruction of insane patients in the art of music. For the past two months she has been busily engaged in teaching a choir of forty insane persons to sing Easter music. Many of them are so unbalanced that they do not know one note from another, and they are all being taught by ear. She has stated that it is not at all uncommon for the programme to be partly disturbed by a number of the choir falling into an epileptic fit. Some parts of the music are difficult. In the class soloists take prominent parts. A bass soloist is so eager to finish that he does not wait for the interludes. It is said that so far the music has had a beneficial effect on both the violent patients and those afflicted with melancholia.

Small-pox in Philadelphia.—Philadelphia has been exempt from small-pox since October, 1895, but a case was reported on March 20th. For some reason the news was suppressed and it was not given out publicly until April 3d. Dr. Benjamin Lee, the health officer, began searching for the cause, and it appears very probable that the contagion was shipped in cotton from the South. The first patient had not been exposed to the disease, to his knowledge, either within or without the cotton mill in which he worked. Shortly afterward his brother became affected in the same way, although all proper precautions had been taken by the board of health, and it is not known whether the latter contracted the disease from cotton shipped to this point or from his brother. It is known that small-pox exists in many Southern States and that it is gradually extending north along the lines of travel.

[Since the foregoing was put into type we have learned that the two patients referred to are at the Municipal Hospital. The hospital physicians have used all necessary precautions to prevent the disease from spreading, and so far no other cases have been reported. It is stated that a great necessity exists for the establishment of a separate building for patients suffering with this disease, and that an ordinance will be shortly introduced in councils to appropriate a sufficient amount of money with this end in view.]

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 10 to April 16, 1898:*

Huntington, David L., Lieutenant Colonel and Deputy Surgeon General. His retirement from active service by the President on April 10, 1898, by operation of law, is announced.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending April 16, 1898:*

Van Wedekind, L. L., Passed Assistant Surgeon. Detached from the Naval Academy and ordered at once to the Minneapolis.

Spratling, L. W., Passed Assistant Surgeon. Detached from the Naval Hospital, Philadelphia, Pa., and ordered at once to the Columbia.

Haas, H. H., Assistant Surgeon. Detached from the Vermont and ordered at once to the Texas.

Armstrong, E. V., Assistant Surgeon. Commissioned assistant surgeon from April 5th.

Bucher, W. H., Assistant Surgeon. Commissioned assistant surgeon from April 5th.

Dickerson, D., Medical Inspector. Ordered to Marine Headquarters, Washington, D. C.

Portolette, D. N., Surgeon. Detached from the Marine Headquarters, Washington, D. C., and ordered to the Vermont.

Rush, W. H., Surgeon. Ordered to the Dixie at once.

Edgar, J. M., Surgeon. Detached from the Vermont and ordered to the Prairie.

Pickrell, J. M., Passed Assistant Surgeon. Detached from the hospital, Washington, D. C., and ordered to the Yosemite.

McCormick, A. M. D., Passed Assistant Surgeon. Detached from the Naval Academy and ordered to the Yankee.

Pigott, M. R., Passed Assistant Surgeon. Ordered to the Naval Academy at once.

Henneberger, L. G., Surgeon. Ordered to the Bureau of Medicine and Surgery.

Drennan, M. C., Medical Inspector. Detached from the New York and ordered home to wait orders.

Gravatt, C. H., Medical Inspector. Detached from the San Francisco and ordered at once to the New York as fleet surgeon.

Russell, A. C. H., Surgeon. Detached from the Naval Museum of Hygiene and ordered to the San Francisco at once.

Cordeiro, F. J. B., Surgeon. Detached from the Michigan and ordered to the New Orleans at once.

Bucher, W. H., Assistant Surgeon. Ordered to the Vermont temporarily.

Armstrong, E. V., Assistant Surgeon. Ordered to the Scorpion.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending April 14, 1898:*

Sprague, E. K., Passed Assistant Surgeon. Granted leave of absence for ten days from April 8th. April 11, 1898.

Hastings. Hill, Assistant Surgeon. Granted leave of absence for seven days upon being relieved from duty at Middlesborough, Ky. April 11, 1898.

Society Meetings for the Coming Week:

Monday, *April 25th:* Medical Society of the County of New York; Lawrence, Massachusetts, Medical Club (private); Cambridge, Massachusetts, Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *April 26th:* Texas State Medical Association (first day—Houston); New York Dermatological Society; Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); Medical Society of the County of Putnam, N. Y. (annual); Hunterdon, N. J., County Medical Society (Flemington); Litchfield, Connecticut, County Medical Society (semiannual); Richmond, Virginia, Academy of Medicine.

Wednesday, *April 27th:* Texas State Medical Association (second day); New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Philadelphia County Medical Society.

Thursday, *April 28th:* Texas State Medical Association (third day); New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Brooklyn Society for Neurology; Roxbury, Massachusetts, Society for Medical Improvement (private—annual); Hartford, Connecticut, Medical Association (annual); Pathological Society of Philadelphia (conversational).

Births, Marriages, and Deaths.

Married.

D'AQUIN—DESSOMMES.—In New Orleans, on Thursday, April 14th, Dr. John J. d'Aquin and Miss Marcelle Dessommes.

BIGGS—BROWNING.—In New York, on Thursday, April 14th, Dr. George P. Biggs and Miss Florence Browning.

RILEY—ALLEN.—In East Greenwich, Rhode Island, on Thursday, April 14th, Dr. Walter R. Riley and Miss Grace E. Allen.

RUFFNER—THOMAS.—In Buffalo, on Monday, April 18th, Dr. Ernest Ruffner and Mrs. Jennie Thomas.

ZIMMERMAN—SCHULTE.—In Watertown, Wisconsin, on Wednesday, April 13th, Dr. Walter Zimmerman, of Milwaukee, and Miss Annie Schulte.

Died.

GARDNER.—In Providence, Rhode Island, on Thursday, April 14th, Mrs. Mary Frances Gardner, wife of Dr. Clarence T. Gardner.

HUMPHREYS.—In New York, on Friday, April 15th, Dr. George Hoppin Humphreys, in the sixty-fourth year of his age.

RAWSON.—In Le Roy, N. Y., on Monday, April 18th, Dr. R. B. Rawson, in the sixty-sixth year of his age.

SAMS.—In Charleston, South Carolina, on Monday, April 11th, Dr. Donald D. Sams.

Proceedings of Societies.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Stated Meeting, February 9, 1898.

The President, Dr. WALTER B. JOHNSON, in the Chair.

Home Modification of Milk.—Dr. W. L. BANER read a paper on this subject. (See page 345.)

Dr. HENRY KOPLIK said that to the pædiatrist this paper contained a great deal of food for thought; it was an excellent and practical paper. So far as the method of working out percentages was concerned, one would have to become familiar with it, but it looked from a superficial examination to be a simple method and easily learned. It presupposed that the milk must have sixteen per cent. of cream. In his own practice, dealing almost entirely with children, and with children in all walks of life, rich and poor, he had to know home modification; he could think in percentages. He did not use this method at all. He started out with certain principles: a baby must have an easily digested food; the mother's milk was not cow's milk, and *vice versa,* and the casein of cow's milk was very difficult to digest. What one must do with cow's milk was to dilute it. The baby in the twenty-four hours must have obtained so much sugar, so much fat, and so much nitrogenous matter; it must get it in an easily digested form. Soxhlet, of Munich, had devised a formula which the speaker used; it contained from three and a third to four per cent. of fat by weight. He diluted the milk, as it came from a very good dairy, one half with water, for a child below nine months. Then one had milk containing about two parts of fat to one part and a half of proteids, and about three to three and a half of sugar—in other words, a milk poor in fat and poor in sugar—and, by adding to that mixture a certain amount of sugar of milk, one could, to a certain extent, make up for the fat and sugar, though not completely. The method made up by adding six or seven per cent. of sugar of milk, giving a mixture that was equal in its chemical equivalents to mother's milk, but poor in fat. This modification might be made at home by simply diluting the milk one half, and adding to each eight ounces a teaspoonful of sugar of milk, dissolving the sugar of milk first in the four ounces of water, and then adding the four ounces of milk. The practical results of the Soxhlet mixture were, that it could easily be made in any household, and the baby could get a mixture equal to mother's milk. Out of seventy cases which he had under direct observation in his clinic at the time, only about ten or twelve per cent. were not getting along on this mixture. Every baby was weighed once a week; the condition of the baby was noted, and those below nine months received the mixture. The Walker-Gordon method could not do better than allow ten per cent. of the babies to drag along—they did not increase in weight, but remained thin and had diarrhœa. They might live and grow up, but as babies below nine months they were not doing well. With that method it was assumed that every baby needed its own mixture. One could not go into a household, put a baby on the use of a mixture, and in a week or so change it; the mother would not allow it to be changed so often, as she had an intuitive idea that it was not the way to do. If the baby did not digest the milk which was carefully prepared, there must be something else the matter with it, and it probably would not get along except on the mother's milk. There were some children who got along better, had less colic, if the albuminoids were reduced; others did better if the fat was increased; the constipation was abated and the movements were better. The problem had not yet been solved. Even Dr. Rotch admitted that he could not pick out a mixture that would fit every baby. In regard to sugar of milk, the preparation he used was the recrystallized sugar of milk, manufactured by Merck, which was satisfactory. As regarded the proteids, one must always remember that they were not those of the mother's milk, and they must be well diluted. The mistake of not doing this was made by many practitioners. With regard to the amount given to the children: below three months, the children got three ounces in each bottle, and had eight bottles in twenty-four hours; that gave them enough proteids, fat, and sugar to make up what they would have got if they had had the breast. At the fourth month they got four ounces, and so on, running up to the eighth or ninth month.

Dr. HENRY DWIGHT CHAPIN said he thought the paper the most valuable one he had heard on percentages in connection with home use, and he hoped it would be published where all could carefully read it and follow out its directions for trial. He agreed largely to what Dr. Koplik had said, but did not follow the Soxhlet method; he used the method of Meigs, and thought in the study of the subject of infant feeding there had been very little improvement over the old Meigs mixture. This was simply allowing milk to stand for two or three hours in a cool place, and using the top half. That made up to a certain extent for the loss of cream in the mixture that Dr. Koplik had spoken of. He advised the people to get a good dairy milk, and, as soon as it was delivered in the morning, allow it to stand in a cool place for two or three hours, and use the top half only for feeding the baby; it was then diluted one half with water or whatever diluent was selected. He found on having this analyzed that one gained about two per cent. of fat. The great advantage of this was that the fat was in a fairly fine emulsion that *had not been manipu-*

lated. In the whole subject of laboratory work that point seemed to have been lost sight of largely, and yet he believed it was an exceedingly important one to consider. It was not the amount of fat put into the baby's stomach, but the way it was put, and how it could be absorbed. The milk was manipulated too much in the laboratories; cream was separated from the milk by the centrifugal process, and one had skimmed milk and cream, with a certain proportion of fat and sugar water; then these elements were combined in a certain percentage of albuminoids, fats, and sugar. One obtained by that method three or four per cent. of fat, but what was the form of that fat? It was not in a fine emulsion, and clinically the fat, in order to be thoroughly assimilated, must be in a fine emulsion. The child might not assimilate a crude emulsion of cod-liver oil; a very fine emulsion would be assimilated better. The fineness of this emulsion in the milk was in direct ratio to its absorbability. The subject of percentages was fascinating; it looked accurate; it was scientific to say three or four per cent. of fat, but the important thing was the form of that fat. Was it in a form in which the baby could easily assimilate it? In many cases it was not, because when it was separated and put back it could never form a fine emulsion. One could shake it and mix it up, but under the microscope there were big fat globules instead of the exceedingly fine emulsion in which Nature intended the infant to get the cream.

With reference to the diluent, he favored, in many cases, the cereals. That seemed old-fashioned, and perhaps was not altogether in favor with some advanced thinkers, but one should be guided by clinical results. As Dr. Koplik had said, the casein of cow's milk was not the casein of mother's milk, and simple dilution did not make it so, but in many cases the action of the cereal appeared to make it more easily assimilated. The speaker used barley water and sometimes added a little malt to it. He had had a series of experiments made, boiling the barley for several days and diluting the cow's milk with it, but found by testing that there was actually no more soluble starch in that preparation than in the plain flour, and the good effect of the heat was simply a mechanical one, some change taking place in the flour that made it appear more efficient in diluting casein. The same chemist had made experiments with malt, and found it did actually change the starch into soluble starch. Many babies that were losing weight, not assimilating the casein, would improve by using a thin barley water that had been malted. Dr. Koplik had mentioned cases that did not do well on this or any other of the prepared percentages. The speaker was not ready to give them up without making another trial. Every man who saw many sick babies in tenement houses and hospitals found that a certain number did not thrive, did not gain in weight, and in many cases lost weight. If a baby kept losing weight, nothing would save it. He had made repeated autopsies on those who had died of so-called marasmus, and there was no change to account for the death; a careful examination of the bowel showed no lesion that could cause death; the only thing that could be made out was a sort of granular change, and that was simply a condition of atrophy; atrophy of the organs of assimilation, the same as in the voluntary muscles and every other organ in the body. If these babies could be given something to stop that atrophy, they would be saved. A certain number of these cases yielded to the much-abused condensed milk in his hands. He did not wish to maintain in any way that condensed milk was good for babies; but in these atrophic cases that seemed hopeless, he had used a mixture of fresh condensed milk and cream, and had saved a certain number of patients that had been losing weight under the percentages and every preparation of cow's milk he could give them. He spoke of a case in the hospital. Two miserable, scrawny babies came in, twins; he put them on the proper percentages, but they lost weight. After a few weeks the father came in one day and said he did not know his babies, they were so thin, and accused the speaker of trying to kill them. In spite of the remonstrances of the nurse and the house doctor, he removed them and took them home; and fed them on canned condensed milk; the babies began to get stouter again, and finally were brought for the speaker's inspection quite rosy, apparently thriving, and he had learned his lesson from a few cases of that kind to try something different from cow's milk in certain of these atrophic cases. Since reading an article on the subject he had added mutton broth. He had used fresh condensed milk and cream in mutton broth for certain of these atrophic babies, with pretty good results. He expressed great gratification with the paper and hoped to profit by its suggestion, which he should certainly try. He believed that the great point in feeding babies was the use of fresh milk; he thought that point as important as giving them proper percentages. The milk one got in the city was thirty-two hours old. If one could get a fresh milk and a clean milk, many more of the babies could be saved, and the great thing would be to get dairymen to see that it was to their advantage to have everything connected with the milk clean, and put it in the city where one could get it in twelve hours.

Dr. W. L. Stowell said he had been exceedingly interested in the remarks of Dr. Chapin and Dr. Koplik for two reasons. He had presumed that the Walker-Gordon milk would be advocated, and that if Dr. Baner had something far simpler, there would be a discussion as to which was the simpler mixture. He had tried both, and used most constantly a modification similar to the Meigs mixture. In the Infants' Hospital they gave modified milk to all children that were brought up on the bottle, according to the Walker-Gordon method, with better success than they had had under former methods of feeding the bottle-fed babies, and yet with a very large percentage of failures. The result of more than a year's use of modified milk in the hospital had been that it was considered a great gain over any method that had been used before; at the same time, it had had to be varied in many cases and the modification changed. Some of the children had been put on the use of the malted milk for a time. For some reason, it was thought that Mellin's food was not suitable for the younger ones, but after four or five months they were given Mellin's food and thrived on it. In outside practice, in dispensary and private practice, he modified the milk after the Meigs formula, and found it better. The matter of cane sugar and milk sugar had interested him a good deal. The cane sugar seemed just as suitable in the winter time as the milk sugar; it was said to be more irritating to the bowels, and he had sometimes thought so when trying it in hot weather, but in cold weather he used it. A great deal could be done in the way of using hypophosphites in some cases and cod-liver oil in others, to build up the system in every way possible. He had not tried adding the malt to the milk. It was interesting to see the change in view from time to time. One year there would be discussion that tended entirely to practical methods, and the next year to entirely scientific, and then it went back to a sort of combination of the two. He thought that the way one could be most successful was by understanding the scientific management as far as possible, and modifying the milk at home in a domestic manner.

Dr. D. E. Walker said that he for one felt grateful to Dr. Baner for having brought out his formulæ in the feeding of infants. The Walker-Gordon laboratory milk was too costly for a great many patients to use, and if one wished to prepare any quantity by percentages, one could not always think of exactly the formulæ of the books, but these formulæ of Dr. Baner's seemed to be good for any percentage of cream or for any quantity of food. As he understood it, Dr. Baner used the sixteen-per-cent. cream, which was generally used in the laboratory; but for any other percentage he would simply change his formula as to the quantity of food required—for instance, in twelve-per-cent. cream he would divide the quantity by eight, and for twenty-per-cent. cream divide it by sixteen. The formulæ were applicable, no matter what was used to dilute the milk, whether water or barley water, or anything else. He had used condensed milk, but found that he had to add some cream to it. He thought one should be very careful to use a good quality of condensed milk; a great many of the condensed milks were made from skim milk, and in that way were very deficient in fat.

Dr. Theodore W. Corwin said that a very good quality of milk was always very desirable, and he had not heard mention made of any particular quality of milk being accessible in this city. He came from Newark, where they had an excellent supply. Dr. Henry L. Coit, of Newark, some two years ago, had set about to get a supply of good milk, and, with that end in view, associated a number of physicians into a milk commission, and made arrangements with a large dairyman to furnish milk under the supervision and direction of this commission. The result was that milk had been produced under ideal conditions. The herd were selected, the animals were fed according to strict scientific principles formulated for the use of the establishment, and were under the direction of Dr. Runge, the State veterinarian. The houses that sheltered the animals were kept as nearly as possible in a condition free from dust, and with scrupulous regard to cleanliness. The conditions of handling the milk were aseptic; the men were required to undergo a scrubbing process and wear special garments when collecting the milk; the cows' udders were scrubbed, and the milk was carried, immediately after being drawn, by a mechanical device to a distant house, where it was strained and made to flow over a cool surface, then placed in sterilized bottles, which were delivered within eighteen hours after the milk was drawn. Twice a month the milk was subjected to chemical test, conducted by Dr. Leeds, of Hoboken, and a bacteriological test conducted by Dr. Freeman. The result was a milk containing only a few hundred bacteria to the ounce, instead of from forty thousand to a hundred thousand. The percentage of fat was a little above that of ordinary milk, running close to five per cent., and the sugar and casein were in normal proportion. The high breeds of cattle were not selected; it was thought that animals of a commoner breed were capable of furnishing a better milk, although not so great a quantity. The milk was supplied at a reasonable rate, twelve cents a quart; the profession in his vicinity had come to depend upon it with a good deal of confidence. The analysis was given to them every month by circular. In the feeding of children, they found it produced most excellent results; it did not readily undergo decomposition, it lasted for a great while without material change, and diarrhœal conditions were avoided with any sort of intelligence in the management of the child. As a point of fact, mortality from diarrhœal conditions had undergone a decrease; the physicians attributed it largely to the pure supply of milk accessible, and were under the highest possible obligations to Dr. Coit.

Dr. Charles J. Proben thought that the best means we had at present for preparing milk was the Walker-Gordon method. It was as important to prescribe the percentage quantities of the ingredients as to write them in a prescription; and he thought the principal factor in dealing with children was to notice the quantity of casein necessary for digestion, as well as the number of feedings, etc. He had frequently found children did not thrive on the Walker-Gordon milk; usually this was due to the diminution of the quantity of fat. He had seen quite a number of cases in which the proteids were present in the normal proportion, and by diminishing the proteids to a lesser quantity and increasing the amount of fat the children would do very well. Years ago, at the Foundling Asylum, before wet-nursing was in vogue, rickets had been a common disease. When they began to give children out to wet-nurse, rickets had almost disappeared; he had seen eight or ten cases in two years from wet-nursing. He thought that the casein from cow's milk was very much better when diluted with some cereal decoction, such as barley water or oatmeal water. He thought it was Dr. Chapin who some years ago had called the attention of the profession to the use of malt and malt extracts in addition to feeding. He did not know of the diarrhœa caused by the fat in milk, as described by Biedert, but thought it was always attributable to the casein, that was the most important constituent to reduce, whereupon the patients would improve and do well even upon one per cent., which seemed very low, though sufficient for nutrition.

Dr. Baner said that he agreed entirely with Dr. Chapin as regarded Meigs's mixture. He thought that all the best modifications of milk were the direct outcome of Dr. Meigs's mixture. The mixture Dr. Koplik had referred to seemed inferior, as deficient in fat, and, while fat was of less importance than albumin, it was certainly important. Dr. Proben had advocated the other extreme—namely, very high fat percentages, which, with low proteids, would necessitate very heavy centrifugal cream—a disadvantage, for the emulsion, as had been stated, was not so perfect.

The object of his paper had been to advocate percentage thinking as tending to increase our exact knowledge of the subject, and to suggest a simple formula for use with ordinary home articles.

The Antivivisection Bill.—The President said he had received a letter from Dr. John G. Curtis in regard to the proposed antivivisection law. At the American Congress of Physicians and Surgeons, Dr. Welch, its president, had urged upon the congress that something should be done to prevent the antivivisectionists from getting hold of the Senate and Congress of the United States of America. The letter received was as follows:

327 West Fifty-eighth Street,
New York, *January 26, 1898.*

My dear Dr. Johnson: A letter from Dr. William H. Welch, of Baltimore, President of the Congress of American Physicians and Surgeons, urges upon me the importance of a prompt protest on the part of our profession throughout the United States against the passage of a bill, now before the United States Senate, which seeks to hamper scientific experiments upon living animals in the District of Columbia, by harassing and insulting restrictions, going even beyond those of the law which has worked so injuriously in England.

The antivivisectionists are aiming at the enactment of a measure in the District of Columbia which will be used as a precedent for a bill to be introduced into every State legislature. It is, therefore, urgent that the bill should be defeated in the Senate, not only for the sake of our brethren in Washington, who have no representatives in either Senate or House of Congress, but to prevent the outbreak of a vexatious contest in every State.

The most important medical and scientific societies of the United States have passed resolutions against this bill; but it is persistently pushed, having already been reported favorably from committee; and it is believed that a strong and prompt demonstration on the part of influential individuals in our profession is indispensable for its defeat.

I have undertaken to write on this subject to a few old acquaintances among the physicians of the State of New Jersey. Will you not aid in the defense of our profession by seeking to secure the votes against this bill of the two senators from New Jersey, the Hon. James Smith, Jr., and the Hon. William J. Sewell? If you will write directly to them, and induce others to do so, you will perform a valuable public service.

The description of the bill should be given in every letter as follows: Senate bill 1063, Calendar No. 136, entitled "A Bill for the Further Prevention of Cruelty to Animals in the District of Columbia."

Hoping for speedy action, and with my best regards personally,

Faithfully yours,
John G. Curtis.

Dr. Johnson, continuing, said: I wish to enter my protest against the passage of Senate bill 1063. While, from the standpoint of the antivivisectionists, the ills of man would seem to be entitled to small consideration compared to the possible danger of the infliction of suffering upon some animals, the scientific practitioner of medicine can not fail to consider the subject from a human standpoint, and favor a condition which will permit investigation under proper circumstances for the good of man. These conditions can only be secured by the absence of laws which will hamper the scientific experiment upon animals. We of the State of New Jersey point with pride to the result of the series of experiments conducted by the late Dr. B. A. Watson, of Jersey City, which did so much to enhance the knowledge of the conditions present in concussion of the spine after injury. The bill being confined in its effect to the District of Columbia, which has no representation in the House or Senate, will be opposed by the medical profession at large almost as a unit. It is only to be used as a wedge and a preliminary to the introduction of a bill of the same class in the various State legislative bodies of the country. I am in great hopes that your influence will be used to prevent the bill from ever becoming a law.

I do not know whether this society has taken any action in the matter or not, but it would be desirable for them, by resolution or otherwise, to direct the secretary to communicate with the representatives of the State of New York in the Senate of the United States, requesting them to use their influence against this bill. I have written to the vice-president, with whom I am personally acquainted, and also to Senator Smith and Senator Sewell. I received a reply from the vice-president saying that he would use his best influence, and had referred the entire matter, my letter and all, to Senator McMillan, of the committee to which the bill was referred, with a special request that he should do what he could in the matter. Senator Smith and Senator Sewell both replied that they would keep the matter under consideration. I think it would be of service if this society should, by resolution, take some action, and the senators from this State should be notified, and I offer the following:

Resolved, That the secretary of the society be directed, for the society, to write to the United States senators of the State of New York a letter, setting forth the facts, and the desire of this society as a society that such a bill should not become a law.

The motion was seconded and was open for discussion.

Dr. D. Bryson Delavan said that those who were best informed as to the intentions of the promoters of this bill considered it a very serious matter, inasmuch as all the influence of the so-called antivivisectionists throughout the country had been employed in order to cause it to be made a law. On all sides it was said by those who understood the matter that unless a very strong effort was made to oppose it, it would become a law. The speaker not only recommended that the society should adopt the resolution which had been presented to it, but also strenuously urged that every member should personally interview every congressman or senator, whether in the list of his acquaintances or not, and use his influence, as actively as possible, to prevent the bill from becoming a law. Senator Gallinger, of New Hampshire, was the one specially interested in it, and it was backed by a large number of people, who were evidently acting under a misunderstanding of the truth, and who seemed to have more time for talking than the physicians, and more wish to urge the matter than one could believe possible. The antivivisection agitation was really a very important movement, and if anything like the interference with physiological experimentation was accomplished here that had been brought about in England all would suffer in consequence. The main point that those in Washington who were most familiar with the subject made was that each physician should use his personal influence, as far as he could, to oppose the measure.

The motion was put to the society and carried unanimously.

The President said that if there was any gentleman who wished to write individually to the representatives, and he considered it important that many should do so, it was necessary to be explicit. The number of the bill was 1063, the calendar number 136, and the bill was entitled "A Bill for the Further Prevention of Cruelty to Animals in the District of Columbia." It was necessary to have the number of the bill, the calendar number, and the title of the bill, and every medical gentleman who could influence any of his patients who were more influential with the senators than he was himself should certainly do so, because it was a very important matter; it was right that a proper scientific investigation should be made, even if the lives of one or two guinea-pigs, or a few dogs, or any other variety of animals should be sacrificed.

Book Notices.

Handbuch der Therapie innerer Krankheiten in sieben Bänden. Herausgegeben von Dr. F. PENZOLDT, Professor in Erlangen, und Dr. R. STINTZING, Professor in Jena. Zweite theilweise umgearbeitete Auflage. Siebente und achte Lieferungen. Mit 27 Abbildungen im Text. Jena: Gustav Fischer, 1898. Pp. 625 to 700.

AN admirable presentation of the rational treatment of diseases of the bronchi and lungs by Professor Jürgensen is continued in this installment of the *Handbook of Therapeutics.* These chapters are models of simplicity and condensation. Great stress is laid on the use of hydrotherapeutic measures in the treatment of pneumonia, the writer's large experience leading him to rely more and more on their employment. It is doubtful, however, if his directions could be carried out successfully in the case of an adult except in a hospital.

The most interesting feature of this part is the monograph on the treatment of tuberculosis of the lungs by Professor Penzoldt. This begins with an excellent exposition of the general and individual measures of prophylaxis. The elements of prognosis and the modifying effects of prognosis in the treatment are then considered. The different factors of treatment and the treatment of symptoms are thoroughly reviewed. Residence in a closed sanitarium, if only temporary and for the purpose of careful drill in personal prophylaxis and hygiene, is strenuously urged for every case which is not hopelessly incurable.

The chapters on diseases of the pleura and mediastinum are contributed by Professor R. Stintzing, and the surgical treatment of the chest is described by Sonnenburg and Schede. The careful study of thoracotomy by the latter may be especially mentioned.

Professor Bauer contributes an instructive chapter on the general treatment of disturbances of the circulation, in which he gives an appreciative and critical description of Oertel's mechanico-gymnastic treatment of heart disease and chapters on the individual diseases of the heart.

Evolutional Ethics and Animal Psychology. By E. P. EVANS. New York: D. Appleton and Company, 1898. Pp. 386. [Price, $1.75.]

THIS volume, representing an immense amount of thought and research in regard to the subject itself and kindred topics, consists of articles originally printed in several periodicals, but now, generally revised, presented as a whole. While the work will not appeal in a great measure to the average reader, it can not but be of much interest to those who are interested in the subject of psychology. It will appeal to them both as a compilation of the opinions of various authorities and as an interesting treatise on the study of the science of animal consciousness or intelligence.

Nine chapters constitute the volume, four of which are given to a consideration of the former division of the title, and five to the latter. The chapter on the ethics of tribal society is largely historical, and that on religious belief as a basis of moral obligation is both historical and deductive. In the chapter on the ethical relations of man and beast the author indirectly makes a plea for a broader comprehension of such a relationship. This is also true of the chapter on metempsychosis, which, if taken literally, seems to be an overdrawn denunciation of anthropocentric ethics.

In the division on animal psychology the chapter entitled Mind in Man and Brute is an exhaustive argument for its existence in the latter. The gist of the following chapter deals with animal progress and perfectibility, and demonstrates how prejudice prevents us from appreciating animal intelligence and from recognizing any psychical analogy between animals and ourselves.

The chapter entitled Ideation in Animals and Men, if it is not wholly convincing, is extremely entertaining, and the same may be said of that on the barrier between man and beast. A chapter entitled Æsthetic Sense and Religious Sentiment in Animals concludes the volume, which throughout is written in an admirable style, clear, succinct, and very entertaining. A most comprehensive bibliography is appended, together with a complete index.

Diseases of Women. A Text-book for Students and Practitioners. By J. C. WEBSTER, B. A., M. D. (Edin.), F. R. C. P. Ed., Demonstrator of Gynæcology, M'Gill University, etc. Illustrated with Two Hundred and Forty-one Figures. Edinburgh and London: Young J. Pentland. New York: The Macmillan Company, 1898. Pp. xxii–688. [Price, $3.50.]

THE author of this work calls attention in his preface to three aims which he has kept before him while preparing the volume.

1. To give prominence to the scientific basis of each subject under consideration, attending carefully to modern researches in anatomy, histology, embryology, pathology, and bacteriology.

2. To study clinical features in their widest relationship.

3. To insist upon caution in the adoption of therapeutic measures not yet thoroughly tested.

The author's reputation as a careful, scientific observer led us to expect that he would be well fitted to accomplish these aims, and we have not been disappointed.

In his first aim he has perhaps achieved the greatest success, and the parts of the work referring to the histology, pathology, and bacteriology of the subject are especially interesting and well written. The clinical part of the work is also good in the main, but hardly equals the preceding in thoroughness or attention to modern methods.

Certain expressions, although unimportant, seem to the American mind somewhat strange. The use of a rug for purposes of covering a patient upon the examining table hardly appeals to us as preferable to that of a clean sheet. We also feel obliged to take exception to certain methods of examination recommended by the author. We do not consider a thorough examination complete without an inspection of the external genitals, and for this thorough examination decubitus on the left side, in our judgment, is not so satisfactory as the dorsal posture.

We regret that the pages of the book are so small that the illustrations had to be so reduced in size as in many cases to impair their usefulness. The illustration of laceration of the cervix seems to us especially poor, and the description of the operation for its repair would hardly be satisfactory to a practitioner.

On the other hand, many chapters are exceptionally good, such, for instance, as that on disturbances of menstruation and that on the nervous system in relation to pelvic disease.

We doubt the wisdom of applying the term "amenorrhœa" to a diminution of menstruation as well as to a cessation of it. The appendix contains a discussion by the author on the explanation of menstruation, and is one of the best articles we have seen on the subject.

The book evidently does not purport to be exhaustive, but as a whole it is well written, contains the results of considerable original work on the part of the author, and deserves to hold a high place among students' text-books.

Die bacteriologische Technik. Von Dr. Bruno Schürmayer, Hannover, früher Assistent am hygienischen Institut der Universität u. an der chirurg. Klinik von Professor Schinzinger, Freiburg. Mit 108 Abbildungen im Text und 2 Tafeln in farbigem Chromodruck. Leipzig: C. G. Naumann, 1898. Pp. viii–271.

Any one who will have the patience to cut the pages on three edges of this little book will be rewarded by finding within an excellent sketch of present bacteriological technical methods. The first twenty-five pages are devoted to the optical principles of microscopy, a chapter which could well be copied *verbatim* in some American works on this subject.

The chapter on the general morphological and physiological characters of bacteria is written with scientific accuracy and with much greater detail than is generally found in works of such small size.

The part relating to descriptive bacteriology is constructed with special reference to diagnosis and pathogenesis, and in this respect is specially adapted to the needs of the well-informed practitioner, for whom the volume is specially intended. It is to be regretted that a text of such general excellence should be seriously cramped by the need of a few more pages, and that it should have met with the fate of cheap publication. The colored plates are very poor and the publisher's work is to be heartily condemned, although the volume sells for less than a dollar.

Das Hörvermögen der Taubstummen. Mit besonderer Berücksichtigung der Helmholtz'schen Theorie des Sitzes der Erkrankung und des Taubstummen-unterrichts. Für Aerzte und Taubstummen-lehrer. Von Dr. Friedrich Bezold, Professor der Ohrenheilkunde an der Universität München. Der Ertrag dieser Schrift ist für das Central-Taubstummen-institut in München bestimmt. Wiesbaden: J. F. Bergmann, 1898. Pp. viii–156.

One of the most practical and humane features of modern otology has been its researches into the field of the pathology and treatment of deafmutism. Some of the results attained by a judicious combination of medical and educational therapeusis have been little short of marvelous. A treatise as elaborate as the present one, naturally, is restricted to a limited circulation, but we are disposed to regard it as a valuable contribution to the literature of this field of medicine. The various categories into which cases of this class fall are set forth and Helmholtz's theory is discussed, as are also the function of the cochlea and that of the other parts of the labyrinth. A careful study is made, too, of the various other anatomical defects which are apt to be met with in deaf-mutes. A full report is made on seventy-nine cases which have been carefully studied, and the comments upon them will illustrate the writer's special views and clinical methods.

Die Erysipel-, Erysipeltoxin- und Serumtherapie der bösartigen Geschwülste. Von Dr. Rudolf Eschweiler in Bonn. Leipzig: C. G. Naumann, 1898. Pp. 138.

This monograph presents the subject indicated in the title in an exhaustive style and with very impartial consideration of the several aspects of the question. Its principal feature is a detailed report of published cases of "inoperable" tumors treated in one of the ways indicated in the title of the book.

Any one who wishes to acquaint himself with the present status of this subject will save time by referring to this little work.

BOOKS, ETC., RECEIVED.

Mammalian Anatomy. A Preparation for Human and Comparative Anatomy. By Horace Jayne, M. D., Ph. D., Director of the Wistar Institute of Anatomy and Biology, and Professor of Zoology in the University of Pennsylvania, etc. Part I. The Skeleton of the Cat; its Muscular Attachments, Growth, and Variations compared with the Skeleton of Man. With over Five Hundred Original Illustrations and Many Tables. Philadelphia: J. B. Lippincott Company, 1898. Pp. xix–816.

Atlas and Essentials of Pathological Anatomy. By Dr. O. Bollinger, Obermedicinalrath and Professor. Volume I. Circulatory, Respiratory, and Digestive Apparatus, including the Liver, Bile Ducts, and Pancreas. With Sixty-nine Colored Figures upon Sixty Plates, and Eighteen Illustrations in the Text. New York: William Wood and Company, 1898. Pp. viii–246.

Sanitary Engineering. By William Paul Gerhard, C. E., Consulting Engineer for Sanitary Works, etc. New York: Published by the Author, 1898. Pp. 3 to 132.

The International Medical Annual and Practitioner's Index. A Work of Reference for Medical Practitioners. Sixteenth Year. New York and Chicago: E. B. Treat & Co., 1898. Pp. x–740. [Price, $3.]

Atlas der Syphilis und syphilisähnlichen Hautkrankheiten für Studirende und Aerzte. Von Dr. Med. Martin Chotzen, Spezialarzt für Hautkrankheiten in Breslau. Heft VII. Heft VIII. Hamburg und Leipzig: Leopold Voss, 1898. Pp. 79 to 107.

Some of the Inefficiencies of the Methods ordinarily employed by Railway Surgeons for the Detection of Subnormal Color-perception (Color-blindness). By Charles A. Oliver, M. D., of Philadelphia. [Reprinted from the *Annals of Ophthalmology and Otology.*]

A Perfected Series of Test-type. By Charles A. Oliver, M. D. [Reprinted from the *International Medical Magazine.*]

Röntgen-ray Skiagraphy. By De Forest Willard, M. D., of Philadelphia. [Reprinted from the *Journal of the American Medical Association.*]

The Suture-clamp Operation for Hæmorrhoids. By Llewellyn Eliot, M. D., of Washington, D. C. [Reprinted from the *Therapeutic Gazette.*]

The Question of Sign Language and the Utility of Signs. By Alexander Graham Bell. [Reprinted from the *Educator.*]

The Dangers of the Barber Shop. By Henry Alfred Robbins, M. D., of Washington, D. C. [Reprinted from the *Maryland Medical Journal.*]

Some of the Therapeutic Properties of the Thyreoid Gland. By J. T. Eskridge, M. D., of Denver. [Reprinted from the *Colorado Medical Journal.*]

Tumor of the Spine: Compression-myelitis; Operation; Death on the Ninth Day. By J. T. Eskridge, M. D., and Edmund J. A. Rogers, M. D., of Denver. [Reprinted from the *Philadelphia Medical Journal.*]

Les poisons convulsivants. By M. Charles Richet. [Extrait des *Archives internationales de pharmacodynamie.*]

Action de la neurine sur les muscles et les nerfs. Par Mlle. le Dr. J. Joteyko. [Extrait des *Archives internationales de pharmacodynamie.*]

Etude comparée de l'action physiologique et thérapeutique des chlorhydrates d'hydrastinine et de cotarnine. By M. I. Ronsse. [Extrait des *Archives internationales de pharmacodynamie.*]

Hygienische und medicinische Beobachtungen aus dem Congogebiete. Von Dr. C. Mense in Cassel. [Sonderabdruck aus der *Wiener klinischen Rundschau.*]

New Inventions, etc.

A NEW STOMACH TUBE.

By M. Gross, M. D.,
NEW YORK.

Since the publication of my first article on this subject (*Medical Record,* 1895) I have made changes in my tube which certainly simplify the instrument, and hence will make it more acceptable to the general practitioner. Besides, I have been enabled to extend the indications for the use of my tube, so that in its present form it not only completely takes the place of the ordinary tube, but has become almost indispensable to me; while in its first type, as a "stomach douche," it would have been available only in special cases.

It is well known that since the introduction of the stomach tube into gastric therapeutics the use of this now indispensable instrument has increased greatly, especially in the beginning. Even nowadays some physicians are not particular about the indications for the introduction of the tube, thereby often doing injury to the patient.

It is only in late years that the profession has become unanimous as to the necessity and the strict indications for the use of the stomach tube as a therapeutic auxiliary, and I believe the following indications to be in harmony with the majority of writers on the subject:

1. The stomach tube is to be introduced to obtain the gastric contents for thorough examination.

In this connection I may state that I follow a special mode of procedure in the first examination of a patient with gastric trouble—a mode which appears to me appropriate to disclose the nature of the affection often after a single examination.

I direct the patient to take a hearty meal the preceding evening (not later than seven o'clock). The next morning I introduce into the stomach of the patient, in the fasting condition, the tube provided with a glass globe, the latter being intended to receive the gastric contents, if any, to be obtained by aspiration or expression. Then the stomach is distended with air, thus enabling me to determine the size of the organ, sometimes by mere external inspection, or more often by percussion. Of late, in appropriate cases, I have frequently resorted to palpation for this purpose, as the tube follows the greater curvature and may be felt from without. The latter procedure is preferable, since the inflation with air is apt to distend the stomach abnormally.

It is clear, therefore, that one or two examinations may furnish us a pretty accurate picture of any existing disturbance of important gastric functions.

2. The second indication for the introduction of the tube is the presence of marked atonic states, particularly dilatation of the stomach (whether due to stenosis of the pylorus resulting from cicatrized ulcer, to benign hypertrophy of the pylorus muscle, to prolonged spasmodic contraction of the same muscle and associated with hypersecretion, or to carcinoma of the pylorus). In these conditions lavage of the stomach is often of use only symptomatically, though indeed it may at least in part take the place of the compensatory hypertrophy of the gastric muscles which is apt to be tardy in its occurrence. Often, too, when such conditions have been positively diagnosticated, we may be able to advise the patient to submit to an operation for the removal of the underlying cause.

Less strict indications are:

3. Secretory anomalies due to various causes and associated with violent pain (Reichmann's disease, etc.), when other measures have failed.

4. Chronic mucous catarrh of the gastric mucosa coincident with atonic conditions of the muscles of the stomach.

5. In rare cases the tube may be used for suggestive purposes, and then only a limited number of times.

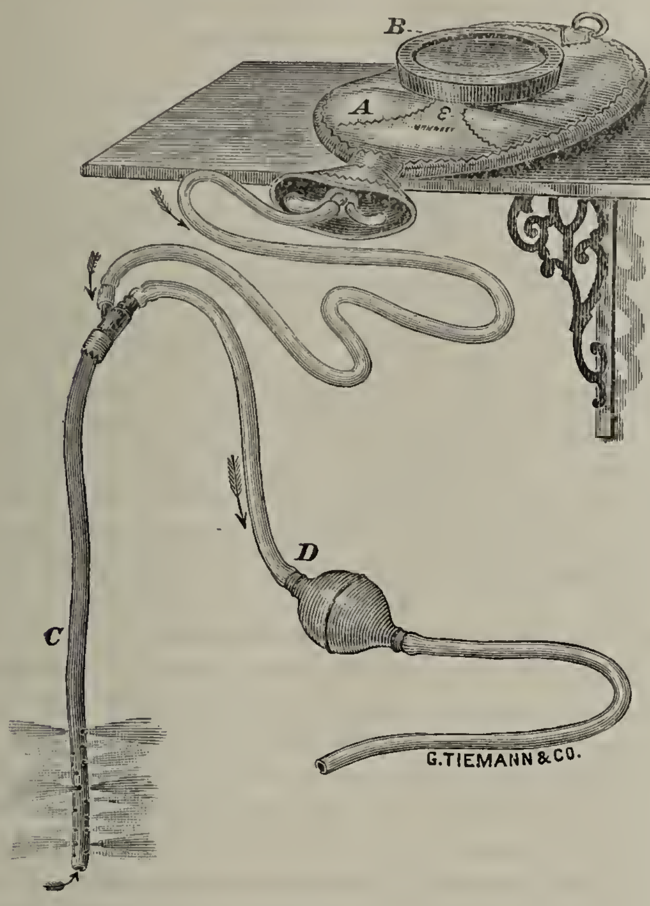
I shall now endeavor to set forth the advantages of my stomach tube over that in common use, and I shall start with the description of the apparatus and the mode of its employment in order to place its advantages in a clear light.

The apparatus, which can easily be carried in the pocket and is thus available for instant use, consists of a so-called hot-water (*A*) bottle connected with the tube by means of an air-tight screw. The tube proper (*C*) is double but made in one piece; the outer or afferent portion is perforated for a distance of six to seven centimetres by four or five larger and numerous smaller openings pointing in different directions; the inner or efferent portion, serving solely for the immediate and rapid removal of the fluid used, carries the latter into a graduated vessel by means of a separate tube provided with an aspirating bulb (*D*).

In order to deliver the fluid at the desired pressure from the hot-water bottle, the latter is simply weighted with some objects (*B*) at hand (books, bricks, etc., ranging from eight to twelve pounds).

The tube is introduced as follows: Starting at the eighth or ninth dorsal vertebra (the location of the cardia), the tube is carried up the back and along the side of the neck to the line of the teeth, which point is marked; then the tube is introduced as far as the mark, and by blowing through the inner portion we ascertain whether the cardia has been passed, in which case the air will no longer escape upward. After the cardia has been passed, a few more puffs of air are sent into the stomach so as to unfold the walls as far as possible, then the tube is advanced six or seven centimetres—the exact length of the perforated portion of the outer tube.

This end of the tube now hangs free in the cavity of the organ, and thus, as it were, overlooks the field of operation.



The advantages are, briefly: (1) Constant and accurately regulated pressure of the fluid introduced; (2) accessibility of the interior of the stomach in all its parts; (3) immediate removal of the entering fluid through the efferent tube; in other words, the fluid reaching the organ in the form of spray always finds the stomach empty.

We secure, therefore, a continuous irrigation of the interior of the stomach. The greater the pressure of the entering fluid the more rapid is its escape through the inner tube. Thus, by the continuous flow we can clear the interior of the organ of the minutest particles possibly adhering to the walls, since such particles are not only struck by a fluid under great pressure, but are carried away by a current having a rapid flow.

Flakes of mucus clinging tightly to the walls are as easily reached and removed as are particles of some poison (in one case Paris green) that may be present, even when the latter are distributed over the whole of the interior of the stomach.

It is evident from what has been stated above that with the ordinary tube, whose funnel end must be raised and lowered in order to remove the fluid accumulating in the lowest part of the stomach, it is impossible to effect such a thorough cleansing of the organ even to its remotest recesses as we can do by means of a continuous irrigation entering and escaping rapidly and reaching every part of the interior.

Miscellany.

The Michigan State Board of Health.—At the regular meeting of the State board, held in Lansing on April 8, 1898, the president, Mr. Frank Wells, dealt with the continued outbreaks of typhoid along the St. Clair and Detroit rivers, at Port Huron, Marine City, Detroit, Wyandotte, and especially the recent one at St. Clair. He urged that, even with inadequate funds, so much preliminary investigation might be accomplished as should induce the legislature to see the necessity of providing adequate funds for more thorough investigation. The secretary, Dr. Henry B. Baker, reported that several samples of water from five sources in the St. Clair River were all but one found to be contaminated with disease-producing germs to such an extent as to promptly cause death on inoculation into animals. The one exception caused sickness but not fatal result.

Professor Novy presented a report of experimental investigations on room disinfection with sulphur and formaldehyde respectively, exemplified by twenty-six room disinfections in which five thousand specimens of twenty different species of germs were exposed and subsequently cultivated. One hundred and fifty cubic centimetres (about five ounces) of commercial forty-per-cent. formalin distilled into a room of one thousand cubic feet killed all moist disease germs. Professor Novy has devised a simple apparatus for distilling commercial formalin into a room through the keyhole. By this means the room can be disinfected without entering it, and, the apparatus being outside, the danger of fire is obviated.

Mathews's Quarterly Journal of Rectal and Gastro-Intestinal Diseases.—This able periodical is to be henceforth known as the *Louisville Journal of Surgery and Medicine,* and will appear monthly.—*Philadelphia Medical Journal,* April 16th.

"Divine Healers" and the Medical Laws of Kansas.—At the instance of the State board of health of Kansas, the attorney general has delivered himself of the opinion that, while magnetic healers, hypnotists, and quacks of all descriptions are amenable to prosecution, "divine healers" are exempt because they profess to receive their powers from Jehovah, and Jehovah's rights and privileges can not be restricted by law! So the other lunatic who was confined in an asylum for professing to be God must be pitied for not having lived in Kansas, where the rights and privileges, which it is to be presumed include personal liberty, of Jehovah can not be restricted by statutes.

An Alaskan Epidemic.—Cerebro-spinal meningitis is said to be adding its epidemic terrors to the other dangers that meet the venturesome gold-seeker in Alaska.

The Cartwright Lectures of the College of Physicians and Surgeons.—These lectures will be given in the hall of the New York Academy of Medicine on Tuesdays, April 26th and May 3d and 10th, at 8.15 P. M., by W. W. Keen, M. D., professor of the principles of surgery and of clinical surgery in the Jefferson Medical College, Philadelphia. The subject will be The Surgery of the Stomach, and the lectures will deal with it as follows: I. Gastrotomy and Gastrostomy; II. Gastro-enterostomy, Pylorectomy, Pyloroplasty, Gastroplication, and Gastroplasty and Gastrogastrostomy for Hour-glass Stomach; III. Tumors of the Stomach, Ulcers of the Stomach, and Gastrectomy.

Mortality in Havana.—In view of the possible occupation of Cuba, it may be interesting to note the statistics of the death-rate there, as given out by Dr. W. F. Brunner, an inspector of the Marine-Hospital Service (*International Medical Magazine; Kansas Medical*

Journal, April 9, 1898). In July last year the death-rate was 71.52; in August, 86.34; in September, 106.68; in October, 136.32; and in November, 133 to a thousand.

A Convent Hospital.—The commander in chief of the Gulf Squadron, Captain Sampson, has accepted the offer made by the Mother Superior of the Convent of Mary Immaculate, Key West, to place the convent and two school buildings at his disposal for a hospital, and tendering the services of the sisters as nurses, in the event of hostilities in Cuba.—*Hartford Daily Courant,* April 16, 1898.

Overheated Houses.—In a paper read April 15th before the New York Household Economic Association on Hygiene in the Home, Dr. Margaret Sullivan strongly deprecated the overheating so prevalent in American houses, contrasting them with the more wholesome conditions in European houses (*New York Tribune,* April 16th). The caution is needed. Many houses are more like hot-houses than dwelling-places.

Some Uses of Pilocarpine.—Dr. Edward F. Willoughby records (*Therapist; Kansas Medical Journal,* April 9, 1898) some interesting cases illustrative of various uses of hypodermic injections of pilocarpine. In the first case, he injected a third of a grain of pilocarpine with a quarter of a grain of morphine in a very severe hot stage of intermittent fever, and very prompt relief of all symptoms followed the speedy diaphoresis. At the subsequent accesses, the injections were made promptly on the supervention of the fever, and showed a marked effect "in hastening the transition from the hot dry to the cool moist stage, while the attacks became rapidly less severe."

The second case was one of febrile insomnia with delirium in an overworked business man. Pilocarpine, a third of a grain, was injected. "The result was startling; in about ten minutes the skin was bedewed with perspiration, and I left him at 10 P. M. lying quiet, and covered with the bedclothes. Next morning he was perfectly calm and rational, his temperature normal; he had had seven or eight hours' refreshing sleep and was still perspiring profusely." He rapidly recovered.

Dr. Willoughby next records a case of obstinate lumbago treated ineffectually with all the usual remedies. Pilocarpine, a quarter of a grain subcutaneously, was followed by complete relief from pain next day, and the day following, after a further injection of a sixth of a grain, the patient was able to perform dumb-bell exercises.

Dr. Willoughby points out that in the event of toxic effects, a prompt physiological antidote is afforded by subcutaneous injections of atropine, and records two cases in which a fiftieth of a grain of that drug relieved within a few minutes all the toxic symptoms resulting from the administration of too large a dose of pilocarpine.

Varalettes.—This is the name given by the London house of Alfred Bishop & Sons, Ltd., to their compressed effervescent tablets. The house is an old and well-known one. We learn that it was among the first to make effervescent tablets, and that its products have always been regarded as unexcelled.

Pepto-mangan in the Treatment of Neurasthenia.—In closing a discussion brought out at a meeting of the St. Louis Medical Society, on February 5th (*St. Louis Medical Review,* February 26, 1898), by a paper of his (prepared in conjunction with Dr. C. Fisch and Dr. Keating Bauduy), Dr. Jerome K. Bauduy said that, in his opinion, sufficient attention had not been paid to the organic salts of iron; in other words, that the other preparations of iron did not produce the results that these organic preparations achieved. For years he had used the combination of iron and manganese in daily practice. He had used a great many of these preparations and the great point had been to obtain one which was assimilable, that was elegant, and that would not produce anorexia and other gastric disturbances. Now, with the organic salts of iron startling results had been obtained, and he intended to use them as long as they benefited the patients. He did not wish to be understood by the neurologists and others present as saying that this was a proper remedy for all cases of neurasthenia, but he did maintain that it was a remedy well suited to those neurasthenic and anæmic cases described, especially in women suffering with menstrual irregularities, particularly those accompanied by hæmorrhage.

The Apotheosis of Advertisement. — The *Revue médicale* of Quebec makes merry over a funeral announcement in which the son and "future son-in-law" of the deceased take advantage of the opportunity thereby afforded, the one to announce that he has added "five new specialties" to his late father's business as a provision merchant; the other, a "celebrated oculist," to inform his friends of his recent appointment as inspector of hospitals of Wisconsin, his approaching marriage, and his office hours.

The International Congress of Medicine of 1900.—At the request of Professor Lannelongue, the president of the International Congress of Medicine to be held in Paris in 1900, M. Félix Faure, President of the French Republic, has consented to preside at the opening meeting.—*Progrès médical,* April 2d.

Legitimate and Illegitimate Births in Paris.—The *Progrès médical* reports the number of births in Paris between the 13th and 19th of March, 1898, as follows: *Male:* legitimate, 448; illegitimate, 165; total, 613. *Female:* legitimate, 423; illegitimate, 155; total, 578.

The Chair of Medical Jurisprudence and Public Health in the University of Glasgow.—Dr. John Glaister, professor of medical jurisprudence in St. Mungo's College, has been transferred to this post, *vice* Professor Simpson, resigned. The appointment is popular.—*Glasgow Medical Journal,* April, 1898.

The Society for Christian Archæology of Athens.—Many of our readers will be interested to learn that Dr. A. Rose, of New York, has been elected a corresponding member of the Χριστιανικὴ Ἀρχαιολογικὴ Ἑταιρία (Society for Christian Archæology), of Athens.

The Archives Internationales de Laryngologie, Otologie et Rhinologie.—Dr. Saint-Hilaire, of Paris, has become the proprietor and director of this old-established and valuable periodical.

Melanotic Sarcoma of the Clitoris.—Dr. Balfour Marshall has reported to the Obstetrical and Gynæcological Society of Glasgow (*Glasgow Medical Journal,* April, 1898) the case of a widow, aged fifty-seven, in whom the site of the clitoris was occupied by a dark-bluish and bluish-red, slightly lobulated tumor of the size of a small walnut. The growth was removed and was found to have originated in the clitoris and præputium clitoridis, being "a melanotic sarcoma with some hæmorrhage into its substance." Dr. Marshall has been able to find records of only nineteen cases of sarcoma of the vulva, of which two started in the clitoris.

The Properties of Snake Poison.—In the *Boston Medical and Surgical Journal* for April 7th, Dr. A. K. Stone gives a review of the work of Fraser and Calmette, of which the following is the substance:

All the recent observers are agreed that an animal or person can be vaccinated against what would otherwise be a fatal dose by the subcutaneous introduction of small non-toxic doses of the poison. But the reasons therefor cause discussion. Fraser and Phisalix believe that antidotal properties reside in the venom along with the toxic. Fraser states his belief as follows: "That protection or immunity is chiefly due to the accumulation in the blood of an antidotal substance, which originates, at least in part, from the venom itself, and is normally one of the constituents of the venom." Calmette, on the other hand, denies this position entirely, believing that the antidotal properties are formed in the blood of the vaccinated animal by the organism itself.

It has been found that the blood serum of animals that had been inoculated against snake venom had a certain antidotal power; though it was also observed that the blood serum of several animals which were known to be immune to snake poison—the mongoose, for example—did not have antidotal properties. Fraser's experiments showed that the blood serum of immunized animals gave antidotal results, and that the results were most marked when similar poison was employed, and that, in a less marked degree, the serum acted to protect against the venom of other varieties of snakes. His method of experimentation was to mix the serum and the venom, having first determined what the minimal fatal dose might be, and then find out what was also the smallest amount of serum necessary to neutralize this dose of venom. *In vitro* he was able to get regular results, but when he turned from this thoroughly artificial method to an attempt at a practical working he found that it took a great deal more serum to save life, even if the serum was introduced half an hour before the venom. He was inclined to believe that too exaggerated an idea of the value of the serum might gain ground. According to his calculations, it would take at least three hundred cubic centimetres or ten or eleven ounces of the strongest rabbit serum that he was able to produce to save the life of an average sized man who had been bitten by a venomous serpent—an amount which would practically destroy the possibility of use.

By further experiments he found that the blood serum of venomous serpents and their gall possessed antidotal properties, but to a much less degree than the blood serum of immunized animals.

Fraser concluded, says Dr. Stone, that the antidotal powers of the blood serum were due to a chemical reaction, because, for example, a certain amount of serum mixed with five times the fatal dose could not neutralize the poison, if they were left in contact but ten minutes, but would if the process was allowed to continue for twenty minutes—that is, a definite time must elapse for a reaction to take place. The power of the serum is not destroyed by drying, neither is it injured, but is rather increased in power by bacterial action (?). Finally, immunity can not be due to phagocytosis; this process does not exist *in vitro*, but is a living process.

During the past year Fraser has worked on the antidotal properties of the bile. He reasoned that the bile was what was poured over the poison as it passed unchanged from the stomach, and consequently it was probably the neutralizer of the poison. Also it was well known that bile of venomous snakes formed an important part of the medicines of the India snake doctors, some of them even refusing to aid in the collection of bile on the ground that the English would learn too much. It was found that in the same way as blood serum of immunized animals, the bile of poisonous serpents mixed with the poison prevented lethal doses from producing death, and the amount needed was only slightly greater than that of blood serum. The bile of innocuous snakes was also tried. Most of these have rudimentary poison glands, and they are immune against the bites of the venomous snakes, and their bile was found, as would be expected, antivenomous, but to a less extent than that of the poisonous varieties. Ox bile was found to have neutralizing power, but only of about one seventh the strength of that of the venomous snakes, while the bile from rabbits and guinea-pigs was still feebler. But a decided obstacle to the use of bile as an antidote is the fact that bile itself is poisonous when introduced subcutaneously, and some of the animals experimented upon, though saved from the snake poison, died after four days, with symptoms of bile poisoning rather than snake poisoning.

Calmette, says Dr. Stone, made some demonstrations of the antidotal power of the serum of horses that were treated by repeated and increasing doses of snake venom, and, convinced by the results of these experiments, the committee of the Royal College of Physicians and Surgeons recommended the use of this serum in India and Australia. For more than a year the institute at Lille has been sending out its serum to various parts of the world, and a number of favorable reports have been received by Calmette, of which the following are examples:

The first case was that of a boy who worked in the laboratory at Lille. He incautiously opened a box which contained a newly arrived lot of snakes, and was promptly and severely bitten on the index finger. Almost immediately the hand and forearm became swollen and œdematous. An hour later there was insensibility of the forearm and hand, with great pain in the upper arm, neck, and axilla, and there was nausea. Twelve cubic centimetres were injected; from that time the symptoms began to subside, and by the next day the sensibility in the hand had returned, the œdema was less, and the boy was practically all right. A woman who chanced to be bitten by the same lot of snakes died in two hours, untreated.

In the second case a native camp follower, a big man, was bitten in several places. Half an hour later he was seen, alarming symptoms having already set in. He was nearly comatose, with subnormal temperature and a pulse of 140, which was weak and irregular. There were difficulty of respiration, vomiting, spasm, pain in the legs, and much œdema. He was given an injection; the next morning he was much better, and in two days he returned to his work.

In the third case a girl of thirteen was bitten by an Egyptian cobra, the asp of Cleopatra. Three or four hours later she was brought to the hospital in Cairo in a state of complete collapse, apparently in a most desperate state. She was insensible; there were no reflexes, and the pupils were dilated and did not react to light.

Twenty cubic centimetres of the serum were given at half past seven, and by eleven o'clock she seemed better and could answer questions; the pulse was 140. A second dose of ten cubic centimetres was given, and within twelve hours she appeared to be out of danger.

So far, the author continues, reports have been received showing favorable results in similar cases in which the subjects were bitten by the following venomous snakes: The *Naja tripudians*, or cobra, of Indo-China; the *Bungarus cæruleus* of India; the *Naja haje*, or asp, of Egypt; the *Naja noir* of West Africa; and the *Bothrops lanceolatus* of Central America.

These favorable results lend further credibility to Calmette's position that the active toxic property of all venoms is the same.

It will be seen, Dr. Stone goes on to say, that decided steps in advance have been made in the past few years in our knowledge of the nature of snake poison, the most important of which are the assertions that all poisons are alike, and, second, that serum from horses made immune to snake poison by the venom of the most poisonous snakes has the effect of counteracting the poison of all varieties of snake venom, and that the serum can be obtained of such strength and concentration as to make its use as a remedy practicable. The short time, a year and a half, that this serum has been in general use makes it impossible to speak definitely about the matter, but the number of favorable cases already reported makes it probable that a real antidote to snake poison has at last been found, though whether it can be produced in sufficient quantities to supply the demands of the tropics is not as yet demonstrated.

Serum Therapy in Excelsis!—Dr. Evelyn, of San Francisco (*Quarterly Journal of Inebriety; Kansas Medical Journal,* April 9, 1898), professes to cure inebriety by "equisine," which he obtains from the blood of a horse that has been injected with alcohol. The equisine is sterilized, mixed with chloral, and frozen, and a paper saturated "in the fluids" is baked. The patient's skin is scarified, and one of these paper "plaques," moistened with boiled water, is applied once a week for eight or nine weeks. It "never fails if no sedatives or narcotics are used." San Francisco can now add another laurel to its "oxytuberculin" wreath!

Buzzing in the Ears.—Subjective noises, says M. Courtade in the *Journal des praticiens* for April 2d, occasionally constitute a symptom which is extremely painful on account of its intensity and ceaselessness; it may reach such a degree of intensity as to deprive the patient of all rest, and impel him to resort to extreme measures in order to escape from an incessant obsession.

As irritation of the optic nerve manifests itself by phosphenes, so excitation of the acoustic nerve, which is an especially sensitive one, causes the appearance of peculiar noises.

This symptom is never observed in children, either because it is not sufficiently intense to attract attention, or, what is more probable, because the labyrinthine pressure can not be very much increased, owing to the proper working of the safety valves, which are the round window and the aqueducts of the helix and of the vestibule. In support of this hypothesis the author states that children who suffer from a long-standing obstruction of the Eustachian tube, causing a very marked breaking down of the membrana tympani, do not complain of the buzzing in the ears, but of deafness only; also that when this affection occurs in an adult, and especially in an old person, the buzzing takes the first place in the symptomatology, and is the first thing to attract the patient's attention.

A third cause of the absence of subjective noises in children is the non-existence in them of an affection which occurs very frequently in adults, in which the buzzing and deafness constitute the two cardinal symptoms; this affection is chronic catarrhal otitis, followed by sclerosis.

Other affections of the ear which may be accompanied by subjective noises are abscess of the canal, foreign bodies, lumps of wax, eczema, etc.; these, however, acquire only rarely such a degree of intensity as to be painful; it is the same with recent acute otitis media; later, adhesions, abnormal bands, and retractions of the mucous folds may immobilize the chain of ossicles in a position which increases the labyrinthine pressure and gives rise to intense buzzing, all the more so as the round window has lost its flexibility and its mobility. In articular sclerosis especially this symptom becomes so intense that patients seek medical aid for that alone, the deafness being only a secondary consideration in their minds.

The mode of treatment should be subordinate to the diagnosis of the causal affection. If it is a foreign body, a lump of wax, or eczema of the meatus, the treatment should be directed to these various affections, and the buzzing will disappear. Obstruction of the Eustachian tube is amenable to inflation of the tympanum; if there is tubal retraction, dilatation should be made with bougies of progressively increasing diameter.

Acute otitis media should be treated by appropriate measures; after suppuration has been arrested insufflations of air should be employed in order to combat the articular rigidity of the chain of ossicles. To combat synechia and adhesions of the membrana tympani or of the handle of the malleus, surgical intervention must be resorted to. In auricular sclerosis, in addition to the local treatment, the author prescribes potassium bromide associated with the iodide to combat the subjective noises. The buzzing which appears in Menière's disease may be treated with quinine sulphate, according to Charcot's method.

If an examination of the ears does not reveal any lesion, it must be ascertained if the buzzing may not be due to the ingestion of certain drugs, such as quinine and sodium salicylate; it may also be due to vascular souffles, like that observed in chlorotic subjects or in certain forms of aneurysm near the petrous portion of the temporal bone; in these cases, however, the noise may be perceived also by the physician, and it then becomes objective; furthermore, these murmurs are isochronous with the pulse, and are more readily perceived when the patient closes the auditory canal; their peculiar character enables the physician to distinguish easily the noises which may be compared to the buzzing of bees, to the sound of bells, to the hissing of steam of a locomotive, or to the more complex noises of a musical phrase, of a melody, which more frequently reveals an affection of the middle or inner ear.

The increase of the labyrinthine pressure is not the only pathogenic factor of the subjective noises, for these may be provoked by the simple irritation of the membrana tympani or of the ossicles by a foreign body, or by the exploring probe, etc., or by a congestion of the inner ear, like that observed in cerebral congestion, or by a direct irritation of the acoustic nerve by a tumor of the petrous portion of the temporal bone, or of the nervous centres, etc.

As this symptom, says M. Courtade, exists in so many affections, it is classed as a commonplace symptom, and does not acquire any clinical value except in two affections of the ear—that is, sclerosis and the vertigo of Menière.

Hydrochloride of Hydrastinine.—This drug, says M. Ronsse, in the *Belgique médicale* (*Journal des praticiens,* April 2d), has lately been recommended not only for affections of the genital apparatus accompanied by hæmorrhages, but also in the treatment of endocarditis, Werlhof's disease, pulmonary tuberculosis, and epilepsy.

M. Ronsse has administered this drug in the form of pills, in powder, and in hypodermic injections in daily amounts of from a grain and a half to two grains and a quarter. In his attempts, however, to combat the profuse sweating in tuberculosis, he has given as much as five or six grains, in one or two doses, daily.

He has treated with it seventeen cases of uterine affection with abnormal or too profuse hæmorrhage; nine cases of pulmonary tuberculosis accompanied by profuse night sweats; two cases of hæmoptysis; two cases of epilepsy; and two cases of nephritis. From the results obtained in all these cases, he feels impressed with the idea that the drug acts very favorably in combating the various hæmorrhages of the genital apparatus, and especially in simple uterine congestion and profuse menstruation. In uterine myomata and carcinomata it has no effect at all.

Hydrochloride of hydrastinine does not exercise, even in large doses, any injurious influence on the gravid uterus, and provokes neither abortion nor premature labor. It seems to exert a favorable action on the progress of labor, although there are no statistics showing that it provokes uterine contractions. The modifications of uterine circulation which are caused in pathological cases are also produced in the normal uterus and diminish the physiological menstrual loss.

The results in the cases of pulmonary tuberculosis referred to by the author are certainly encouraging; out of the nine cases, two only showed no good results; in the others the abnormal perspiration disappeared entirely. The effect of this drug is sometimes temporary, sometimes lasting, and, unfortunately, it is often necessary to employ large and even toxic doses in order to obtain the desired effect. After a prolonged use of the drug its action on the night sweats seems to become exhausted. In the different forms of hæmoptysis great prudence should be exercised in the employment of hydrastinine.

Its influence on essential epilepsy appears to be very doubtful; in any case, it is greatly inferior to that of the bromides. In the two cases of nephritis it exerted a very favorable influence.

The maximum dose is from four grains and a half to five grains, taken internally in from one to two hours. Six grains will cause symptoms of intoxication to appear, such as fatigue, paralysis, especially in the legs, and cutaneous hyperæsthesia. Even in large doses this drug exerts no influence on the appetite, and does not cause gastric symptoms, such as nausea and vomiting. Around the regions of the injections it causes a rather sharp pain.

From the point of view of physiological experimentation, M. Ronsse ascertained the following facts: Hydrochloride of hydrastinine is a paralyzing poison; the depressing action is preceded by a period of slight but manifest excitation. It produces symptoms of accumulation rather than those of habit. It increases cardiac activity; medium and weak doses, from one fifth of a grain to a grain and a half, in intravenous injections, determine in rabbits, dogs, and cats, weighing from two to three kilogrammes, an acceleration of the cardiac movements, a diminution of the amplitude of the pulsatory waves, a constant and permanent elevation of the minimum pressure, and a more temporary elevation of the maximum pressure. The elevation of the pressure, while real, is, nevertheless, little marked; with regard to the pressure at the moment of injection, it is normal or subnormal, in consequence of the condition of excitation in which the animal is found. This elevation of the pressure is much more perceptible when the normal pressure is previously lowered artificially.

Hypodermic injections of hydrochloride of hydrastinine rapidly bring the blood pressure to a normal level, and beyond it, after very grave hæmorrhages. With regard to the mechanism by which the hydrastinine determines these modifications in the blood pressure, it must be admitted that this drug acts at once on the heart, the vaso-motor centre of the medulla oblongata, and the vascular walls themselves. The elevation of the pressure seems to be especially due to the constriction of the abdominal blood-vessels.

If, from a clinical point of view, there is nothing to lead to the supposition that this drug does not provoke uterine contractions, experimentally, the fact has been absolutely proved; M. Ronsse believes also that in women, in spite of the absence of all subjective symptoms, this drug provokes uterine contractions, but that they are not sufficiently energetic to arouse pain and to cause abortion or even premature birth in non-predisposed subjects. During labor the drug intervenes in a sufficiently active manner to strengthen contractions that are too feeble and to restore those which have a tendency to disappear.

The Question of Proprietary Medicines.—In the *Philadelphia Medical Journal* for March 5th Dr. C. C. Fite, of New York, says that he has taken a great deal of care to read every article that has appeared in American medical journals during the last twenty years on this question, and finds that the vast majority of those who have undertaken to discuss it do not make a proper discrimination, but classify legitimate and valuable preparations made by reputable pharmaceutic houses with quack nostrums and all manner of frauds and quackery. So long as this is done, he says, no progress can be made and the question will remain unsettled. The lack of proper discrimination and classification leads to confusion and a misunderstanding of the truth.

The action of the American Medical Association really indicates the solution. When the trustees took steps to eliminate objectionable matter from the advertising pages of the *Journal* of the association, some of the extremists in the association endeavored to get rid of advertisements of all proprietary and trade-mark preparations, but it did not take much investigation to discover that this would not only practically close up the advertising department of the *Journal,* but would also be an assault on preparations prescribed daily by the best members of the profession all over the country. Therefore, the sensible conclusion was reached that only preparations the composition and correct formulæ of which were given would be admitted; and so, after all, the question was settled, whether we admit it or not. Dr. Fite insists that this action of the trustees of the *Journal* was the only sensible one that could have been reached, and says it is only a question of time when the code of ethics of the association will be modified to meet the facts as they are. As it is now, the code of ethics proclaims one thing and the profession is universally doing something else, and we must make up our minds that the code, great as it is, should not be regarded as a divine ordinance and not subject to amendment.

The Prize for American History and Archæology.—According to the *Progrès médical* of April 2d, this prize of 5,000 francs, founded by M. Angrand, has been adjudged by the minister of public instruction to Dr. Hamy for his essay entitled *Galerie américaine du musée d'ethnographie du Trocadéro, choix de pièces archéologiques et ethnographiques.*

German Medical Professors for Turkey.—The example of Japan in adopting Western methods appears to be waking up the Oriental countries generally. We learn (*Lancet; Medical Record,* April 16th) that in response to a request from the Turkish government, Dr. Rieder, of Bonn, has been authorized by the German Emperor to accept the post of professor of medicine at Constantinople at a salary of $6,000 a year. He will be allowed a German assistant whose salary is to be $3,000. The reorganization of the medical school and the inspection of military hospitals will form part of their duties.

Medical Women as War Surgeons.—The women are resolved to go to war some way or another. The authorities have been approached by the fair sex in many ways, and now we learn from the *Medical Record* of April 16th that the Medical Women's Club of Chicago has appointed a committee to raise a corps of women physicians and nurses in case of war with Spain.

The New York Academy of Medicine.—At the last general meeting, under the auspices of the Section in General Medicine, on Thursday evening, the 21st inst., the following papers were to be read: The State of the Vasomotor [*sic*] in Acute Lobar Pneumonia, by Dr. Richard Van Santvoord, which was to be discussed by Dr. Andrew H. Smith, Dr. J. I. Metzger, and others; and Injuries after Exposure to the X Ray, by Dr. William Vissman, which was to be discussed by Dr. E. B. Bronson, Dr. W. H. Porter, Dr. J. P. Tuttle, and others.

At the next meeting of the Section in Laryngology and Rhinology, on Wednesday evening, the 27th inst., Dr. F. A. Bottome will read a paper on The Treatment of Hoarseness in Singers and Public Speakers; Dr. W. C. Philips will present a case of tuberculous ulceration of the larynx and nasopharynx; and Dr. T. J. Harris will present one of extensive orbital cellulitis following an operation for nasal polypi. New instruments and apparatus will be exhibited.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 28th inst., Dr. George L. Brodhead will read a paper on Dry Labor, which will be discussed by Dr. Charles Jewett, Dr. Ervin A. Tucker, Dr. J. Clifton Edgar, Dr. Albert H. Ely, and others. Patients will be presented, and specimens and new instruments will be exhibited.

At the next meeting of the Section in Neurology and Psychiatry, on Friday evening, the 29th inst., Dr. Edward D. Fisher will read a paper on Amyotrophic Lateral Sclerosis: Ætiology and Differential Diagnosis, which is to be discussed by Dr. E. C. Spitzka, Dr. G. M. Hammond, Dr. W. M. Leszynsky, Dr. C. E. Nammack, Dr. C. L. Dana, Dr. Joseph Fraenkel, and others. There will be a presentation of cases.

A New Tennessee Journal.—It is announced that the publication of the *Memphis Lancet* will be begun in July. It is to be a monthly of fifty-four pages of reading matter.

A Sanitary Home School.—A proposition is afoot for establishing a sanitary school at Pinebluff, Moore County, North Carolina, under the auspices of the American Invalid Aid Association. No children who are sick are to be admitted, but the pupils will be such as are delicate or from any cause require special care and attention. One feature that strikes us as especially commendable is the fact that during the greater part of the year the school studies will be conducted under open pavilions among the pines. Arrangements will be made with the agents of the Seaboard Air Line in Boston, New York, Baltimore, and Washington to receive and take charge of young children to Portsmouth, Virginia, where they will be met by the school agent and conducted thence to Pinebluff. The proposed time of opening of the school is November, 1898. The scheme seems to be a good one, carefully worked out in details, and will doubtless prove a great boon to such parents in the Northern States as have children of too delicate a physique to be subjected to the confinement, close application, and unalterable routine of ordinary schools; or to others who by reason of traveling, sickness at home, or other causes seek a home school for their children.

The New York Electro-therapeutic Clinic, Laboratory, and Dispensary.—We learn that we were in error in stating, in the *Journal* for April 9th, that the observance of the third anniversary took place at Dr. Cleaves's house. It was held at the clinic, No. 327 East Twenty-fifth Street.

Streptococcus Pneumonia.—In an able article on The Clinical Course of Pneumonias in which there is an Infection with Streptococci (*Boston Medical and Surgical Journal,* April 14th) Dr. Francis P. Denny lays stress on the importance of a diagnosis of streptococcus pneumonia, whether with or without pneumococci, both for prognosis and for treatment. He says: "The family and friends always want to know when the crisis will come; and to be able to say in a case that there will be no crisis, but that the course will be a long and severe one, would certainly be of practical value to the physician. As regards life, the prognosis seems to be somewhat better than in the ordinary pneumonia." As regards expectant and symptomatic treatment at present in vogue, the diagnosis will not materially aid us; but "in the future, when we have an effective serum therapy in pneumonia—an antipneumococcus and an antistreptococcus serum—the early differentiation of these two forms will be of the greatest importance."

The diagnosis must be made by sputum examination, and the principal clinical characteristics of streptococcus pneumonia are stated to be "the tendency of the local process to wander, the involvement of the upper lobe, the long and irregular type of the fever, and the much delayed resolution."

THE NEW YORK MEDICAL JOURNAL, APRIL 30, 1898.

Original Communications.

THE CAUSES OF THE EXPLOSIVE EFFECT OF MODERN SMALL-CALIBRE BULLETS.

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For some time there has been the utmost confusion in our views as to the causes of the explosive effects of the new army bullet. Writers first affirmed that this small-calibre bullet, moving with great rapidity, went through the tissues like a bullet making a small hole through a pane of glass, or as in the old experiment of shooting a tallow candle through a door. Then came reports of frightful destruction of tissue, just as though the bullet had exploded. Then came contradictory reports as to the zone in which the bullet had these terrible effects, some asserting that it was at short range, while others said it was at the short and long ranges, but not in the middle ranges (five hundred to eight hundred yards). Then came reports of both simple penetration and again of explosive effects at any range, until we were confused beyond hope. Instead of being under the guidance of fixed physical laws, the bullet seemed to be as fickle as the winds—now severe, now mild in action, and always lawless. Hence opinions have been as widely separated as well could be. When a soldier was killed at short range by the new bullet and his skull literally shattered to pieces, as though dynamite had been exploded in his brain, his cerebrum pulpified, and both lobes of the cerebellum found on one side, one "expert," who was interviewed by a newspaper reporter, stated that the bullet would go straight through the skull, making only a tiny hole; and an army surgeon who saw the frightful results expressed the opinion that there was no explosive effect whatever. In one article we found a surgeon dilating upon the humanity and non-destructiveness of the new rifle, while simultaneously there would appear another article describing the frightful destruction wrought, and characterizing the weapon as an invention of the devil. In other words, the bullet sometimes goes through the tissues, producing so little harm that the soldier keeps on fighting, not even knowing he is hurt, while right at his side a comrade is struck down and instantly killed.

It began to dawn on observers that the results depended entirely upon the physical condition of the tissue struck, and many have been the attempts to explain why at one time the bullet should be so benign and at another so vicious. All sorts of theories have been put forth and much experimenting has been done, only to deepen the mystery. The matter has been worked out abroad, and we need not repeat it if we could only get at the results; but, unfortunately, the only reliable report sent to this country was secured under the promise of secrecy and but few know of its existence, hence we must continue to flounder around in the dark. Very fortunately, a profound mathematician has given to the writer a hint as to the underlying laws which explain and classify all the bizarre effects of this little eccentric bullet.

Without going deeply into this subject, a work, by the way, which can not be accomplished except by a profound mathematician, it is sufficient for us to know that the underlying laws have relation almost exclusively to the capability or incapability of the tissues to take up and transmit vibrations or wave motions, and to one ignorant of this subject it is extremely difficult to explain the effects of wave motion or rhythmic vibrations. It is well known, for instance, that by simply drawing a violin bow gently across the edge of a pane of glass it is possible to cause vibrations so violent as to shatter the glass into minute fragments. By simply breathing upon a heavy pendulum rhythmically and in consonance with its time of oscillation it is possible to cause it to swing violently and do immense damage to that which opposes its motion. A tuning fork, by the wave motion it sets up in the air, can cause another fork to take up the motion if it is capable of vibrating in unison with the first, and give out sounds representing very great energy. Our windows are shattered by the wave motions in the air caused by cannonading. Other illustrations are given in profusion in works on higher mathematics, works of which physicians, unfortunately, are, as a rule, densely ignorant.

Now, in these illustrations we find one of the chief causes of these remarkable exhibitions of power in the new bullet—not the sole cause, of course, because such a missile has numerous ways of exhibiting its energy derived from the explosion of the gunpowder. The bullet can be well likened to the violin bow, the tuning fork, or any other object giving forth rhythmical impulses. It not only gets a movement of translation but of rotation from the gun barrel, and in its passage through the air, as well as through the gun barrel, it is acted on by other forces of a most complex nature; and as a result of all these it is set into vibration of extreme rapidity and force. It is not a body moving straight ahead without any other motion, but is twisting, turning, vibrating, and trembling with a rapidity and force difficult of conception. It transmits these vibrations to everything with which it comes in contact. Those vibrations capable of being taken up by the air are carried to the ear in that well-known "whistling" or "ping" of the bullet as it speeds along. As the bullet may vibrate and oscillate perhaps thousands of times a second, we can well imagine that it can give to the air vibrations so numerous that the resulting tone may even be too high pitched to be perceived by the human ear.

Now, in entering solid tissues it does exactly as it does in the air, and whenever it touches a tissue capable, like a tuning fork, of taking up the vibrations, that tissue may be set into such violent vibrations that, like the pane of glass, it may be strained beyond its limit of elasticity, and may fly to pieces.

Yet we know that sometimes it goes straight through the bone, making a clean small hole. Why is it, then, that no vibrations have been given to the bone in such cases? This is somewhat complicated, but due in great part, if not entirely, to the position of the blow in relation to the nodal points of the part.

The *nodal point* is a point on a piano string which does not vibrate, as, for instance, at *a*, *b*, and *c*, Fig. 1.

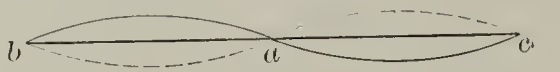

Fig. 1.

Every baseball player knows that there is a certain point of his bat near the end, where, if the ball strikes it, the bat does not vibrate. If struck above or below this point the bat vibrates and stings the hands. This point is the "centre of gyration," or "centre of percussion," a point at which the whole bat acts as a single force. If the bat is hung up and shot at this point, it is affected just as though it were a small body, but struck above or below this point it will be thrown into vibrations. The same law applies to the larger bones, and if the vibrations carry the particles beyond their limits of elasticity they break instead of vibrating, just as the pane of glass will break under the influence of the violin bow. Thus, a man shot in the ankle may have the tibia shattered at its upper end, necessitating amputation above the knee (an actual case), but if shot above the ankle at a nodal point there may be but a small hole that easily heals up. We must not confound the centre of percussion with the nodal points existing after the vibrations begin. They may not be coincident at all, and a bone may break at the centre of percussion. Indeed, the centre of percussion may be anywhere in the body, according to the point from which it is suspended. Experiments with bones are subsequently detailed. In every case the bullet makes a small, round hole of entrance, because it moves so quickly that it overcomes the cohesion of the particles it touches long before it could possibly overcome the inertia of any other particles, or of the whole mass. We see this in every wound, but we see the shattering *in addition* in those cases in which vibrations have been taken up subsequently. Sometimes the exit opening is also very small, showing that the bullet has here also gone through without disturbing the inertia of the whole mass, but that the vibrations have kept up after it passed through.

It is not necessary that the vibrations be of only one wave length, such as a pure tone is; there may be superimposed vibrations, like overtones, or numerous discordant waves simultaneously. A cart wheel does not give out a musical tone, but it may give out vibrations of great power.

In the case of fluids a wave motion is set up by an entirely different process. As in all other media, the bullet must make room for itself by pushing the fluid particles to one side as it "noses" its way through. Fluids being incompressible, the total bulk is then increased by the bulk of the bullet, and in slow-moving bodies that is all the effect produced. It is no more than the effect of pushing a probe into the brain.

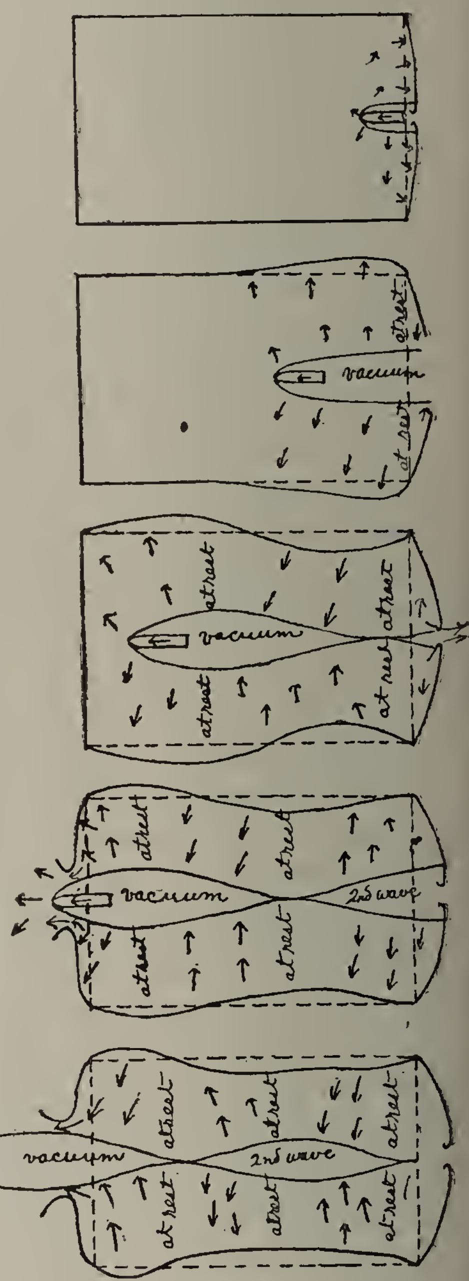

Fig. 2.

When the velocity is great an entirely new factor enters. The particles of fluid making way for the bullet are given a tremendous centrifugal velocity, which they impart to all surrounding particles, even to the extreme outer layers (see Fig. 2). The fluid being incompressible, the particles at the bullet can not move until surrounding ones make room for them. Consequently there is an instantaneous outward or centrifugal motion of all the fluid surrounding the point of the bullet. As soon as they make room the bullet enters. Now these particles of fluid are moving so rapidly that they possess considerable energy of motion, and they can not be stopped until this energy is taken up, and the greater their velocity the more difficult it is to stop them, for the energy is proportional to the square of the velocity. Before they stop they can do great damage—*i. e.*, overcome considerable resistance. As this resistance is not instantaneously applied, the particles keep on moving long after they have made room for the bullet. They are stopped slowly, just as a railroad train is stopped slowly, unless the resistance it has to overcome is of tremendous power, as when it meets another train "head on." The particles of fluid moving away from the bullet track, even after the bullet has passed, must then form a vacuum or cavity. This *cavitation* is at the basis of the explosive effects in fluids, for it enables the whole mass to expand, as we shall subsequently see. The increase in volume caused by the introduction of the bullet itself is so small that it can well be ignored. The enormous extent of the cavity or vacuum thus formed depends solely upon the velocity of the particles moving outward centrifugally from the track of the bullet. As their energy is proportional to the square of their velocity, it is evident that doubling their velocity increases their energy fourfold, and they can overcome four times the resistance before they are brought to rest. The resistances are, of course, the strength of the materials of the walls of the tissue containing fluid, and they bulge out these walls until they burst, or until they stop the motion. We will call this bulging the "ballooning" effect.

As soon as the particles are brought to rest they are acted on by the forces driving them back, for they now surround a vacuum. They rush back again to the track of the bullet, and come together with great force, rebounding perhaps for a second excursion outward. All these movements follow the bullet—they are true wave motions. In the ordinary waves on the surface of a fluid, the motions of the particles are entirely different; they are circles or other curves; but in the waves produced by the bullet the particles move in straight lines perpendicular to the direction of the motion of the bullet, and the bullet, of course, moves in the direction of its long axis. The particles vibrate back and forth in these radii, or in approximations to these lines, according to the resistances they meet. The particles which rush together in the vacuum behind the bullet come together with terrific force, some of which is turned into heat, sound, and other vibrations, but considerable may remain, and the particles rebound from each other, creating a second vacuum, and continuing their outward journeys until stopped by resistances when they return. They thus vibrate back and forth until their energy is dissipated and the fluid is at rest. The amplitude of the vibration (the extent of movement) of course gradually lessens, as it does in a piano string. The amplitude depends entirely upon the velocity of the particles and the resistances they meet.

When the particles rush outward they may only balloon out the vessel and not break it; in that case the walls are simply dragged back into place again. Sometimes the walls are forced outward into such shape that they do not readily return; in that case the weakest parts may collapse. Should the walls break, allowing some of the liquid to escape, then, of course, the collapse of the walls by the return wave will be very marked.

It is therefore very evident why rapidly moving bullets create such havoc in fluid tissues, and why it is that the greater the velocity the greater the damage. The brain, for instance, after such vibratory movements is churned into a mushlike mass. The skull will be bulged out and drawn in perhaps several times, and we can see, then, the cause of such shattering of the whole cranium.

When the bullet has passed nearly through the fluid and is about to strike the rear wall it has given a tremendous blow to all the fluid particles surrounding it. They are moving out of the way, and exerting great pressure. The instant the bullet breaks through the rear wall the edges of the break are immediately forced outward by the fluid making a large, ragged exit opening, as seen in the diagram, Fig. 2.

The vacuum following a solid moving very rapidly through gas or fluid is a well-known phenomenon, which is now figuring very much in mechanics. We can see how it is produced by merely moving the hand rapidly through the water in a bath tub; but, of course, it is not formed to any extent by such a low velocity. This subject is receiving the greatest practical application in marine engineering, by what is denominated the "*cavitation*" of screw propellers driven at high speed. It is found that at the higher velocities this vacuum actually puts a limit to the speed of propellers beyond which the energy of the engine is not used in thrusting the boat forward, but is expended in thrusting the water backward and forming a cavity in front of the blades. By increasing the propeller surface without altering its pitch or diameter, the speed of the ship may be maintained by far less horse power, and the "slip" or difference between the speed of the propeller and that of the ship may be materially diminished. The word *cavitation* is used because in such velocities the space is not probably a vacuum, but is filled with water vapor, for we know that water will burst into vapor in a vacuum at ordinary temperatures. In the case of the bullet it is manifestly impossible to say whether the cavity is a vacuum or whether it is filled with vapor, but in either case the effect is the same. Mr. S. W. Barnaby and Mr. Thornycroft have explained the matter of cavitation in a paper read before the International Congress of Naval Architects and Marine Engineers (see *Popular Science Monthly*, November, 1897).

In order to prove the vibratory character of these movements, numerous experiments have been made by shooting into ordinary tomato cans, as described below. Their great advantage exists in that they remain in the position to which their walls were forced by the last wave or vibration of sufficient energy to move them—sometimes ballooned out, sometimes collapsed. Bones and other live tissues will not do this, hence such experiments are quite difficult to interpret, but in rigid tin cans we have a permanent record left by the waves. The skull, for instance, is ballooned out to a terrific extent, fracturing it into many pieces, but the tensile strength of the surrounding membranes prevents their own rupture, and their elasticity forces the skull back into its original shape, and we have no record of the wave except its damage. It is like finding the wreckage on the shore after the waves have pounded the ship to pieces.

In the accompanying diagram, Fig. 2, an attempt is made to show graphically the fluid waves or vibrations caused by the bullet. It is purely diagrammatic, because we do not know the wave length, or its rhythm, or its amplitude (or height). It may have a wave length of many feet, so that only part of one wave can be in the can at one time. Nevertheless, it shows very plainly how the cans are forced into the shapes in which we find them. Whether the cans burst or collapse depends entirely upon their strength relatively to that of the moving fluids. The arrows indicate direction of motion of the fluid particles, and not necessarily directions of pressure. By studying the diagram first, the experiments can be easily interpreted.

EXPERIMENTS WITH TOMATO CANS. ALL SHOTS FIRED THROUGH CANS FROM ONE END TO THE OTHER.

Experiment I.—Empty and sealed. Small entrance and exit holes were identical. They were small, as if cut out with a punch, though the edges were slightly inverted and everted respectively. Shape of can unaltered.

Experiment II.—Empty and sealed. Small entrance hole as in Experiment I, but exit was a trifle larger and its edges more everted than in Experiment I. Air being compressible, these two cans show that the air displaced by the bullet was merely forced or compressed into the surrounding layers, and transmitted a wave too feeble to change the shape of the can.

Experiment III.—Full of water, a small vent hole being unsealed. Entrance hole as in Experiment I; exit hole irregular, about an inch and a half across, with jagged, everted edges. Front end bulged out, as by internal pressure; rear end was torn loose almost entirely at soldered edge, and, *after the bullet had passed through,* the end swung out a hundred and eighty degrees around the small strip of uninjured edge acting as a hinge. This shows that *the pressure or forces which forced the ends out acted after the bullet had passed through the can,* as a vibration or wave would act. The sides partly collapsed, perhaps from the vacuum caused by the escaping contents, or by vacuum caused by the receding wave. Anyhow we see results in this can of both positive and negative pressure, bulging and collapsing. If it were hydrostatic pressure from within there would be no collapsing.

Experiment IV.—Full of water, sealed. Result same as Experiment III, except that rear end was not entirely torn loose.

Experiment V.—About two thirds full of water, a vent hole being unsealed. First shot went through upper air stratum, with results as in Experiment I. The second bullet went through the water near its surface. Entrance hole same as in Experiment I; exit hole was an inch in diameter, irregularly oval, and jagged edges, everted as in Experiments III and IV. The ends were slightly bulged out, and the sides slightly collapsed. As the bullet went so near to the surface of the water it is quite evident that the waves could be but slight in extent, and the air being very compressible prevented them from exerting their full force on the ends of the cans. In other words, the bullet churned a groove in the fluid, most of the motion being upward into the air in the upper part of the can. The particles of moving fluid took the path of least resistance, as all moving bodies do, and many of those moving downward, which might have bulged out the can, undoubtedly were reflected to one side, their entire force being expended on the can as a whole, and not on the lower wall.

Experiment VI.—About two thirds full of water, sealed. The bullet went through lower layer of water. Entrance and exit as in Experiments III and IV. Front end was slightly bulged out, and for one fourth of its circumference was *torn loose and everted, while the adjacent side was collapsed and inverted.* The rear end was slightly bulged out, about half its soldered edges being torn loose. The sides were partly collapsed. The damage done was not nearly so great as in Experiments III and IV. This can be explained by supposing that the compressible air did not allow the vibrations to be carried to the can, for the *upper third of the can, which was in contact with the layer of air, was practically uninjured.* The collapsing was, of course, due to the return rush of fluid in the second half of the first wave. A series of transverse ridges of this part of the can may have been due to vibrations transmitted to the block of wood on which the can rested, and it also has the appearance of having been first flattened down on the wood by the first ballooning before it collapsed. These ridges remind one of the marks on the seashore left by the small waves or ripples.

Experiment VII.—Can of tomatoes, just as it came from the shop, containing a large bubble of air. Result almost same as Experiment III—*i. e.,* small entrance opening, bulged front end, rear end torn almost entirely off, and swung around ninety degrees after the bullet had gone through. Sides collapsed into triangular shape at rear end after the end was blown off. A longitudinal soldered edge was blown open at the collapsed end, showing that just before the negative pressure, which collapsed this end, there must have been a positive or outward pressure. This was at the upper side, which in Experiment VI, containing air, was unchanged. The pressure or injury was thus transmitted to the top, though the bullet passed through the lower fifth of the can. The side in contact with the wooden block was evidently flattened on the wood by the first wave, and shows the same ridges perpendicular to the axis of the bullet motion as in Experiment VI.

Experiment VIII.—Can of tomatoes, having only a small bubble of air. An effort was made to get all air out, but unsuccessfully. Results same as Experiment IV, except that the exit opening was larger, being over two inches in diameter, and there was greater bulging of both ends and slighter collapse of sides than in Experiment IV. These two, Experiments VII and VIII, show that a semisolid or partly solid material floating in water acts just as the pure water. The effect on the skull is also the same as though the skull were filled with water instead of a semisolid floating in water. In each case the water transmits the vibrations and pressure.

Experiment IX.—Can of tomatoes. It was opened to the air by numerous holes punched in the upper side. Bullet passed through near the bottom. The entrance hole was small as before, but *one half of its edge was inverted and the other half everted,* showing that the dragging in of the edge by friction of the bullet was reversed subsequently by a pressure after the bullet had entered the contents. Front end bulged out, as in Experiments IV and VIII. An inch and a half of the lower soldered edge near bullet entrance was blown out and the adjacent side collapsed. Rear end badly bulged out, exit opening very large. One half of soldered edge torn loose and sides collapsed. But little injury occurred at the top, where there was freedom of air movement. As the bullet passed through near the lower edge, this was collapsed by the return wave, for here the return movement began so soon, the particles having so little distance to travel. This side was first flattened against the wooden block on which it rested before it collapsed, and it has the same transverse ridges seen in Experiments VI and VII.

Experiment X.—Can of tomatoes. This was freely opened to the air by removing a strip nearly two inches wide at upper side. This was done to show that it could not possibly be hydrostatic pressure (fluid at rest), but hydrodynamic (fluid in active motion). If it were simply transmitted pressure, the fluids had plenty of opportunity to escape. Entrance opening small, front end bulged out, rear end badly bulged out and nearly one half of edge torn loose. Exit hole smaller than in previous experiments, being scarcely an inch in diameter, but it had the same jagged, everted edges. The strength of the can was, of course, greatly reduced, and the sides bulged badly at top, where strip was removed. It was flattened against the wood, but did not have the transverse ridges as in Experiments VI, VII, and IX. The free opening to the air at top, of course, allowed all the upward-moving fluid to escape, bulging the sides as it did so; consequently, there was no return motion and collapse, for the air rushed in to equalize the pressure and take the place of the vacuum left within.

In the next experiment a wooden box with a glass side was constructed, to find out whether it was possible to observe through the glass the wave produced by the bullet; but we signally failed, as the pressure produced was more than the box could stand. It was burst into pieces, and the damage was done so quickly as to make no impression on the retina. The box was twenty-four inches long, twelve inches wide, and ten inches high; it was open at the top and was filled with water. The bullet went through from end to end, in the front making a small hole the size of the bullet, but in the rear end tearing out a conical space three fourths of an inch by an inch and a half at anterior surface, and an inch and a quarter by two inches and a half at rear surface. The rear end was blown off in two pieces after the bullet went through, and rebounded ten feet from the target butt. The bottom was split into five pieces, the central one being further broken at the centre, as though it had been bent outward. The nails at the rear end of the box were not bent at all, or slightly bent to the rear. At the front end, the sides were blown outward about half an inch, but more at the bottom than at the top, as the bullet went through near the bottom. The glass was broken into fragments and thrown outward, some pieces as far as thirty feet. We had here the very severe action of the first wave produced by the cavitation behind the bullet, the effect increasing in violence as it proceeded from front to rear. It would be interesting to have the same experiment performed in a large tank.

It is evident that the new small calibre bullet produces exactly the same effects as the older, slower ones, only more of them. In order to show this we will detail three other experiments with the slow-moving bullet from the army pistol fired into other cans.

Experiment XI.—Can full of water, sealed. Entrance hole small, cut out, and edges inverted; exit hole about half an inch in diameter, jagged and everted. Both ends bulged out, and the longitudinal seam burst open. No collapse. There was here a similar increase in volume from cavitation, but the return trip of the first wave was not of sufficient force to cause the sides to collapse. Possibly there were fewer vibrations, and the vacuum made by the bullet was of small extent.

Experiment XII.—Can full of water, a strip being removed from upper side. The bullet was fired very low. Entrance and exit same as Experiment XI. Front end but slightly bulged, *rear not at all. Upper edges of slot everted, but lowest side collapsed.* The outward wave everted the edges, but free ingress of air prevented collapse. At the bottom, on the other hand, the vacuum was close to the wall, and the tin collapsed at once at the return vibration, the same as in Experiments VI and IX.

Experiment XIII.—Same as Experiment XII, and same results. The collapse in both these cases is very instructive, for the tin sides were forced up to and beyond the track of the bullet, as in Fig. 3.

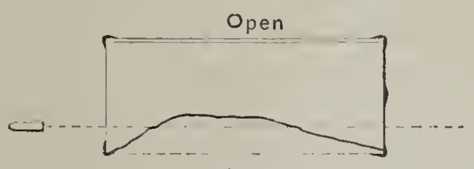

Fig. 3.

To show that the direction in which the bullet is fired through the can is immaterial, in the next experiment the can was shot through from side to side. We might hear the objection that the blow on the solid end may of itself cause the pressure within. This objection could have been answered *a priori* by the fact that the bullet cuts its way into the can without disturbing the metal walls, as it overcomes the cohesion of those particles it comes in contact with before the inertia of the rest can be overcome, and cuts out a piece like a punch.

Experiment XIV.—Can of water. Bullet entered the sides and went through parallel to the ends. Entrance hole small and "punched out," with slightly inverted edges. Exit opening large, almost square, an inch and a half to the side, with ragged, everted edges. Can bulged out at ends and bulged out on entrance side, even tearing the metal in a strip running through entrance hole. The upper end was ripped half off and swung upward forty-five degrees.

Experiment XV.—Can full of dry sand. This experiment was tried, as the sand acts somewhat as a fluid. Entrance small, as in the other cases. Exit about an inch in diameter, with ragged, everted edges. The bullet made a funnel-shaped tunnel from one opening to the other, its sides being of compact compressed sand. The can was not bulged out in the least. This shows that the sand particles flying away from the bullet were merely imbedded further in or "packed," and could not transmit their pressure to the sides of the can. At the exit they bulged out the torn edges just as the water did.

Experiment XVI.—Can full of wet sand. Here was a semifluid capable of transmitting pressure, practically incompressible. The results were nearly the same as with water—*i. e.,* very severe bursting effects, with tearing of can. The front end was slightly bulged, the rear end was torn entirely off. The sides of the can were collapsed into oval shape.

In Experiment VI the outward movement of the water above the bullet track had no effect upon the can, because the compressible air took up the pressure and distributed it evenly. If this were on intestine or stomach partly full of fluid and gas, we can see how the parts inclosing the fluid might be frightfully lacerated and those surrounding the air entirely escape.

The wave increases in force as it advances, because the further the bullet goes the thinner is the layer of fluid in front of it and the more easily can it move the whole mass; consequently, but two of the cans have the seams on the front end burst out (Experiments VI and IX), but the rear end is invariably badly torn open.

In order to apply all these results to organs, we made the next four experiments with fresh bladders from recently killed cattle.

Experiment XVII.—Bladder distended with air. The bullet went through, making a tiny hole of entrance and exit, and scarcely moved the bladder.

Experiment XVIII.—Bladder half full of water and half of air. The first bullet went through just at the water's edge, making small entrance and exit wounds. The second bullet went through the water. The entrance and exit wounds were very large lacerations, three to four inches in diameter, the bladder being turned inside out.

Experiment XIX.—Bladder full of water. The entrance and exit wounds were both very large and torn. The soldier who fired the shot, and who knew absolutely nothing of the essence of this paper, volunteered the information that he saw a momentary swelling out of the bladder before it collapsed. Two other spectators who were looking for this phenomenon could not assure themselves that they saw it. It takes place so quickly that unless one knows exactly when it occurs it makes no impression on the retina. Spectators are guided by the sound of the firing, which can not possibly reach their ears until after the bullet has passed through. The soldier, on the other hand, knew exactly when to look, for he was the active agent in causing it. Perhaps the cinematograph would record the ballooning of such experiments.

It should be said that in all the above experiments, when fluids or semifluids were used, the cans were thrown off the block, sometimes six or eight feet, and some of them bounding in the air. The bladders were also thrown from their supports. Cans full of air were, of course, unmoved, as was also the bladder which was distended with air.

These experiments prove the futility of experiments upon dead animals, for after rigor mortis sets in we have such a complete change in the fluids of the body that we may not have any explosive effect at all from wounds that would have been remarkably severe in the living tissues. Again, bones are freely movable in the living and can take up vibrations which they could not do when fixed in position by rigor mortis. A live joint full of fluid will, of course, balloon out like the skull, heart, or the tin cans.

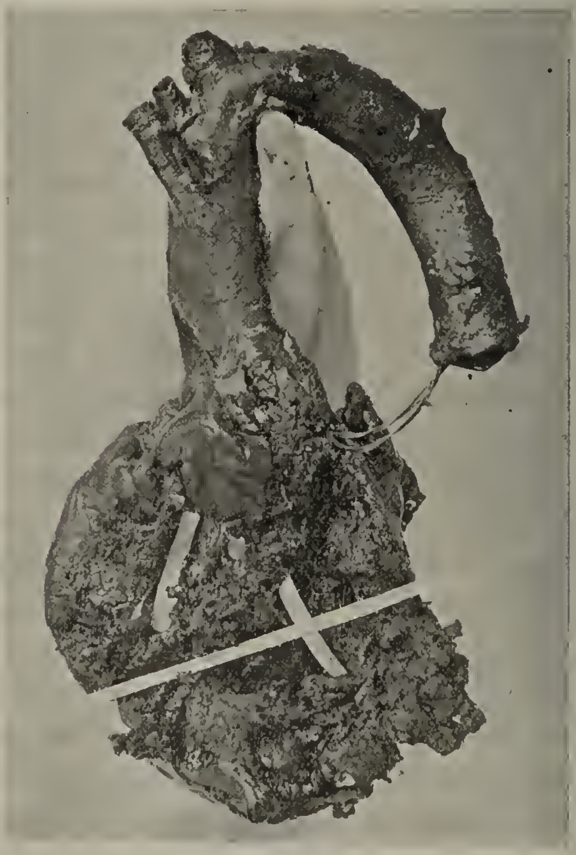

Fig. 4.

The photograph, Fig. 4, shows how these vibrations taken up by the blood in the heart can burst the organ open, a result manifestly impossible by hydrostatic pressure, for by the latter there would be a tear or rent and not an effect as though dynamite had exploded from within. The photograph (Fig. 4) is of the heart of a man who committed suicide by shooting himself with the new Krag-Jörgensen rifle, and being at such short range it, of course, shows the explosive effect with frightful distinctness. The horizontal white line is a slender strip of paper laid in the track of the bullet as it went from front to rear through the left ventricle. The vertical white lines are strips of paper laid in the left auricle and left ventricle respectively. It will be seen that the whole left heart has been blown open from within outward—a veritable explosion. The whole picture is an immense open lacerated wound involving the whole auricle and ventricle. The right heart was not involved. A more typical illustration of the explosive effect of the new bullet when it strikes a live organ full of fluid (not a dead one) could not be obtained, and it is probably unique.

The following experiments on bones are of interest, taken in connection with the effects produced on the can of sand. The tibia of a horse was suspended by a string tied to a nail driven in one end. It was shot transversely in various places. At the spongy ends the bullet went through, making a tiny track, but no tearing. At two and four inches from the end, though still in spongy tissue, but with thicker walls, the track was conical, of the size of the bullet at entrance, but half an inch to an inch in diameter at exit, with no further destruction of the bone. This was exactly as in the can of dry sand. Six inches from the end the bullets tore off many fragments of bone from one side only. A shot fired very nearly through the centre of the bone broke it in two pieces by tearing out a length of an inch and a half, which was shattered into fragments. This might have been expected, for it is at the centre that vibrations could be taken up in their greatest intensity.

We must not confound the explosive effects of the bullet with the lacerations due to ragged, deformed bullets. Here we have to do with a serious tearing of muscles and ligaments. Lacerations are, of course, greatly increased by particles of bone broken off and forced forward acting as so many new missiles. In a recent case the bullet carried with it many fragments of the lower end of the humerus, and together they tore an immense opening in the forearm. They acted like a charge of buckshot, or the "sand-blasting" of snipe, whereby pot hunters can kill a large number of birds at one shot by firing into the sand in front of the flock. It was not an explosion. In joint wounds these two forms of action are seen simultaneously.

The pulpifying effect of large projectiles, which pass close to a limb without touching it, is a phenomenon similar to the explosive effect of small bullets. Though the skin may be uninjured, the tissues within may be pulpified beyond recovery, and death may result unless amputation is performed. It has been said to be due to "windage" or effects of the air pressure. It is probably due to the air vibrations, which so close to the projectile must be of immense power.

Among other theories as to the cause of the explosive effects of the bullet is the assumption that it becomes very hot. This is a very remarkable misstatement. The bullet's temperature is altered but very little, either by the momentary contact with the flame or by friction of the barrel, or friction in the air, for experiments with infected bullets show that the bacteria are not killed, as they would be if the temperature were raised to any extent, but can infect animals into which they are fired. Nor is the heat due to impact very great. Some writers assert that this heat is sufficient to melt the bullet, and that deformation of the bullet is due to the melting of the metal. The total muzzle energy of the bullet is shown to be many times less than sufficient to melt the metal. The bullet is flattened mechanically, as we would flatten it with a hammer and anvil, its cohesion being overcome mechanically and not by heat. Heat has positively nothing to do with the explosive effects of the bullet. The increased volume of the cans shown by the bulging of sides and ends, as in Experiment XI, is not an increase due to heat, for the water would not expand so much under influence of heat, and there is not enough energy in the bullet to produce steam in bulk equal to this increment of volume. It is a cavity around and behind the bullet, and the volumetric increase of the cans is explainable under no other reasoning. It is "cavitation," as explained by marine engineers.

It has been stated that the explosive effect is due to the rapid rotation of the bullet received from the rifling of the barrel. All the effects I have detailed are explainable without taking rotation into effect at all. In order to disprove it conclusively I fired several shots from a smooth-bore shotgun, using a round .45-calibre bullet. This bullet undoubtedly may receive a rotation from sliding along one side of the barrel, but this is a tumbling rotation around a transverse axis, and, in addition, it is so slight that in comparison to the rapid rotation due to rifling it can well be neglected.

Experiment XX.—Can full of water, top partly open. Entrance and exit openings about three quarters of an inch in diameter, with inverted and everted edges respectively, both ends slightly bulged out.

Experiment XXI.—Can full of water, top partly open. Entrance opening about three fourths of an inch in diameter, with inverted edges. Exit opening an inch by two inches and a half, everted, torn edges. Both ends of can were bulged outward. The flap on the top end was bent out ninety degrees by the escaping water. The difference in the extent of explosion in the two above experiments was probably due to the amount of gunpowder used.

Experiment XXII.—Can half full of water, shot fired through air strata. No bulging of can. Exit and entrance opening each about an inch in diameter, with inverted and everted edges respectively. The large size of the entrance opening in each case is, of course, due to the slowness of the blow giving time to bend and tear the tin, instead of punching out a piece, as the rapidly moving bullet does.

In the accompanying photograph (Fig. 5) of these tin cans many of the facts mentioned are quite clearly shown, the numbers corresponding with the numbers in the experiments. In No. 1 is the small entrance hole, while in No. 2 is the exit. Nos. 3, 4, and 5 show the exit ends. Nos. 6, 7, and 8 are the transverse views, No. 7 showing the ridges received from the block. Nos. 9 and 10 are the exit ends. Nos. 11, 12, and 13 are the transverse views. No. 16 shows the exit. No. 15 shows the exit from the sand. No. 20 is the exit. Nos. 21 and 22 the entrance.

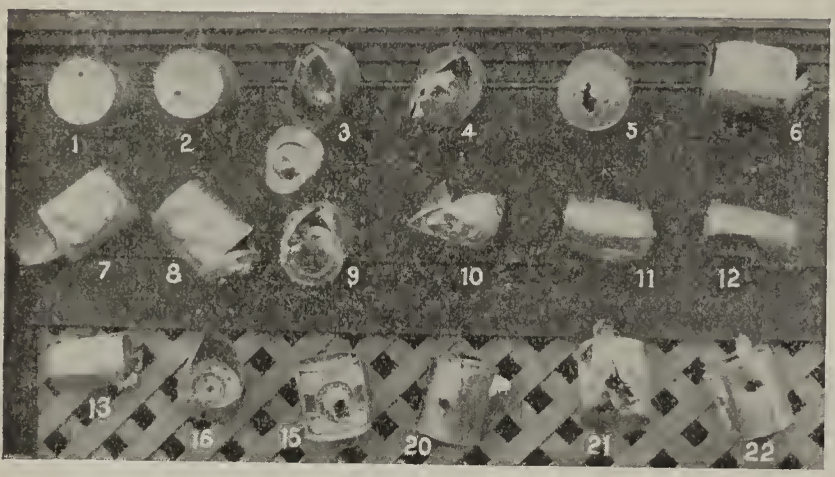

Fig. 5.

Explosive zones are said to exist. For instance, it is thought that in the middle ranges, say from five hundred to eight hundred yards, the explosive effects are not found, or are not so marked as at shorter or longer ranges. The writer believes such ideas to be errors from the accidental finding of cases in the middle ranges which had not been wounded in fluid tissues or in such parts of solid tissues as would allow of vibrations being taken up. It can be proved, of course, by firing into tin cans at different ranges.

Unfortunately, the writer is not so situated that he can do this now, nor can he procure cartridges with reduced charges, as the ordnance department of the army no longer makes such cartridges on account of the uncertainty of their action.

It is quite evident, then, that the whole subject is a wonderfully complex one, but due to well-known mechanical laws of vibrations or wave motions. Of a line of infantry men fired at and shot, some will be so little injured as to go on fighting, while others will be instantly killed, with frightful mutilation. The bullet has stopping power if it hits the right spot, but to stop an approaching enemy we have to mutilate him so badly that he dies instantly. This is opposed to the genius of modern war, which aims to stop the enemy's fighting by injury, and to avoid killing him if possible. Death is only a last resort. With the new bullet the only way to stop him is to kill him—this is barbarism. In the next place, unless we do kill him he may keep on advancing after receiving a fatal wound and kill us before he falls, actual cases having occurred in India.

In the third place, to stop him with this bullet is a haphazard thing, too uncertain for the precision necessary in war. We must be certain that the great majority of the men struck will be out of the fight instantly, whether fatally wounded or not. Military men are beginning to feel that the new rifle is unfit, except for the sharpshooters to use at long range, and are wondering whether, after all, they will not have to return to the large calibre again for the body of the army, who will do their effective fighting at short range. They argue that the average man can not shoot accurately at long range, and why give him a precise instrument which he can not use? The objection to all this is the confusion which results from having ammunition of different calibres for the field. Perhaps the objection is not so weighty as the objections to the present uncertain arm; better some confusion, which only affects a few sharpshooters, than defeat. Perhaps the next army rifle will be of large calibre, slower velocity, and surer stopping power.

It is somewhat foreign to this paper to explain why the old, large-calibre, slow-moving bullet had such greater stopping power and caused so much damage every time it was stopped in the body. It has partly to do with the energy of the bullet and its momentum. The energy or ability to do work is proportional to the mass and the square of the velocity (MV^2); hence the new bullet, though smaller, has much greater energy than the old, and can do more work, though it rarely gives up all its energy, because it passes entirely through the body. The *blow* struck depends entirely upon the momentum, which is proportional to the mass and velocity. The slow, large bullet can have greater momentum even though it has less energy than the new. In addition, it is so large it can not plow its way through the tissues like a small bullet, as it has to tear apart so many more cohering particles. It is therefore stopped, gives up all its energy, and delivers a far greater blow than the new bullet.

It is self-evident that a bullet must lose its energy very greatly and very rapidly by producing cavitation and wave motions in fluids. To prove this seems unnecessary; nevertheless, the following experiments were made. Several boxes, fourteen by eighteen by twelve inches, were filled with water and placed in line end to end about sixteen inches apart, and fired into at the end of the line. The first bullet fired low burst two boxes, but did not have enough energy left to penetrate the third. It passed partly in, caused a wave, which separated the joints here and there a quarter to half an inch, and then dropped harmlessly to the ground. The second bullet burst two boxes, but was deflected in passing through the second one and was lost. The third bullet was fired high and skimmed along the surface of the fluid, making a shallow trough of water, lost but little energy and went through the rear end, making a tiny hole, as it did in the front end, and then buried itself in the target butt. The box was uninjured.

These experiments show that while the new bullet may go through twelve men or more if it does not strike fluid tissues, it can go through but few if it loses energy by exploding fluid-containing organs like the heart, bladder, etc.

It is to be hoped that all experiments hereafter made on living animals, as well as accidents happening to man, will be interpreted on the grounds laid down in this paper. We should consider the velocity of the bullet, the character of the tissues, whether solid, fluid, or gaseous, and their capability of taking up vibrations; the cavitation in fluids, lacerations by deformed bullets in semisolids, and, finally, the wounds made by pieces of solids torn off and converted into additional missiles.

A NEW METHOD IN BRAIN STUDY.

By WALLACE WOOD, M. D.

Comparative anatomy and the dry process offer to us a new field of observation. Broca followed this method with good results. Since his time it has fallen into neglect. If the cerebrum of an ox (*Bos taurus*) be prepared with medicated glycerin and that of a human being (*Homo sapiens*) with dilute nitric acid, the result will be two brain mummies, two pieces of brain sculpture *of about equal size.* Viewing the two specimens side by side with this unmistakable advantage of equality in size, one is led to observe the gyri with greater care and to trace out with the eye and with a brush and paint perhaps what appear to be homologies.

That such homologies are found need not indeed be a cause of surprise. Hath not an ox eyes and ears? Hath he not a nose and tongue and a manus and pes? Why, then, should he not have an eye gyrus, an ear gyrus, a paracentral lobule, and a Rolandic vortex? That these lines of psychical action will be found upon the bovine brain and every gyrus and lobule identified it appears to me one may reasonably presuppose. Long ago it was laid down by Gratiolet that the cerebrum of ungulata bears a closer resemblance to that of man than does that of the carnivora. May not one go a step further and divide brains into two classes, the murderous and the non-murderous? Those of *Felis* and *Canis* would belong to the first group, and those of ovines, bovines, and primates to the second.

During the past year I have prepared by the dry process, without shrinkage, the hemispheres of forty-two bovines, thirty being American cattle from the abattoirs in New York, and twelve of Norfolk, Guernsey, and Irish stock from the cattle market, Islington, London. The collection includes calves, steers, heifers, cows, fatted oxen, bulls, old working oxen, and "stags." The subject is not without interest. Little by little I have found it possible to go a certain way in distinguishing age, sex, and class by the hypertrophy and atrophy of frontal and occipital gyri. The contrast between the brain of a Norfolk cow and that of an Irish bull, for instance, is quite as striking as the contrast in the external appearance of their heads.

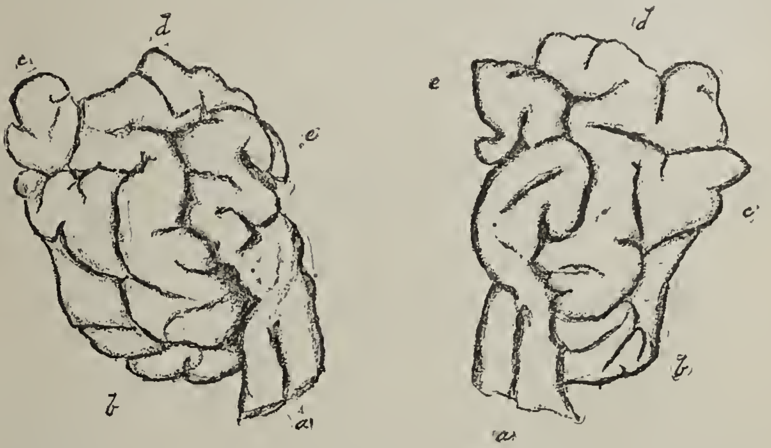

Fig. 1.—Right and left under-occipital lobe of Norfolk bull from the cattle market, Islington, London. *a*, the hippocampus cut off; *b*, *c*, *d*, the three parts of the fusiformis, which is highly developed; *e*, the ligula, also at a maximum.

One of the most interesting regions of the cerebrum, and yet one least studied, is the under-occipital. This portion, which in *Homo* appears as a hollow, a wide arch, or concavity, in the bovine creature exhibits quite the reverse formation, a convexity or dome, which in the mature male assumes proportions that can hardly be described as less than prodigious.

Notwithstanding the difference between taurus and *Homo,* the gyri of this under-occipital lobe are certainly homologues, and are those known in man as the *ligula,* or gyrus temporo-occipitalis medialis, and the fusiformis, or gyrus temporo-occipitalis lateralis.

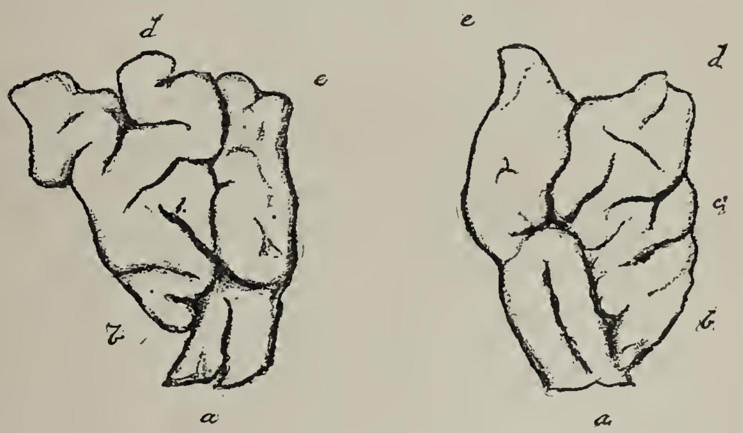

Fig. 2.—Right and left under-occipital lobe of a fat ox, Norfolk breed, from Islington. *a*, the hippocampus cut off; *b*, *c*, *d*, the three sides of the fusiformis, reduced or shrunken; *e*, the ligula, atrophied or reduced to its simplicity. The brain of this animal was quite as large as that of Fig. 1.

The under-occipital lobe consisting of these two lobules exhibits in cattle certain marked differences according to age, sex, and breed. It attains its maximum development in the mature bull and is seen at its minimum in the fatted ox.

In good dairy cows of Holstein and other breeds it often presents an appearance suggestive of flowers or fruit. In old working oxen the gyri become, as it were, proliferous and look like wide-branching horns. Thus one comes to recognize certain fixed types.

Here, now, is the vital point. The ligula and the fusiformis in *Homo* and *Bos taurus* are unmistakable homologues. The question arises, Do not homologous forms imply analogous functions?

THE NUTRITIVE VALUE OF THE FOOD CONSTITUENTS FOR INFANTS.

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The same general principles and the same factors have to be considered in studying the diets of infants and adults. In either case the constituents are fat, carbohydrate, protein salts, and water. During the first year, however, the infant needs careful watching, and the food ingredients require a nicety in preparation and adjustment which is not necessary for the adult. Until the baby is one year old the food must be liquid and as easily digestible as possible. Gastro-intestinal disturbances are to be guarded against, and while this may be accomplished by the reduction of certain constituents, enough of each must be offered to insure proper and healthful development. Appetite and experience regulate the kind and quantity of adult food, but the infant too often suffers on account of a voracious appetite and lack of experience.

To understand in what proportions the food ingredients should be offered it is necessary to study their nutritive values and uses in the body.

Fat, carbohydrates, and protein can serve as fuel and yield energy in the form of heat and muscular strength, but protein has another function peculiar to itself and not shared by either the fat or carbohydrate. Protein is the only nitrogenous element of food, and by virtue of this performs a specific duty—namely, the building and repairing of the body tissues and cells. The human machine of muscles, blood, organs, etc., is largely composed of protein, and for its proper growth and development a constant supply of nitrogenous food is required, and as this same machine is used up and worn out, it depends principally upon the protein for its repair. Protein can not be manufactured in the body nor can its peculiar function be assumed by the fats or carbohydrates.

Its exclusion from the diet of adult or child would lead to disaster, as there would be no provision for the maintenance of the machinery of the body. Such a condition can be likened to that of an engine in constant use, but with no care or attention paid to its repair.

A certain amount of protein must therefore be taken in as such in the food, and the time when it is most needed is during the first year of life, when development is rapid and metabolism active.

The normal infant doubles its birth weight in five months, and triples it in a year. The muscles develop and are educated to new movements each day. Blood is manufactured to keep pace with the rapid growth of the body. For all this work protein is necessary, and if the supply is not equal to the demand development is tardy, the constitution is weakened, and the lack of protein deprives the blood of its essential ingredients. On account of the deficiency of globulin, upon which the hæmoglobin relies for its proper formation, the specific gravity of the blood is lowered and its coloring matter is below the normal amount. Such blood is a poor medium for the transmission of nutrition to the tissues of the body, and the machinery shows a lack of vigor, which is seen in various ways.

Such a child is fretful, dentition is delayed, and the gain in weight falls below normal. There is a tendency to catarrhs of the various mucous membranes, and if the child is allowed to drift into broncho-pneumonia or gastro-enteritis the weakened constitution shows little resistance.

My experience leads me to infer that a deficiency in protein may be a factor in producing rickets, as evidenced by craniotabes, enlarged epiphyses, and a rickety rosary. To emphasize the value of protein in the food I can not do better than quote from Bauer's *Dietary of the Sick,* where he says: "The functional activity and resisting power of the organism seem to be essentially connected with the presence of an ample supply of albumin."

In connection with John S. Adriance, F. C. S., I published in the *Archives of Pœdiatrics* of January and February, 1897, A Clinical Report on the Chemical Examination of Two Hundred Cases of Human Breast Milk. In that we proved that the protein of human milk showed a steady marked reduction toward the end of lactation, and normally by the ninth or tenth month fell below one per cent. It is at this time that we very often see the symptoms due to a deficiency of protein in the food, and if development is to continue satisfactorily, some form of animal food must be added. This applies not only to mother's milk, which is deficient in protein, but to the various forms of prepared milk. If, on account of gastro-intestinal symptoms, a modified milk deficient in protein is used for any prolonged period the same untoward symptoms develop.

The significance of protein is demonstrated in a recent article on fattening calves,* which concludes that they store more protein than the adult animal. In the adult by far the larger part of the protein is transformed into circulating protein, but in the calf only a small part undergoes such a change; also, in the adult animal the protein metabolized is at all times greater than the gain in protein. In the calf two thirds of the protein of food is stored in the tissues of the body, and only one third is used as circulating protein.

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* *Orgaan ver Oudleer Rijks Landwbouwschool*, ix, 1897, No. 2, pp. 8-11.

It is recognized also that in feeding steers the gain in weight and value of the ultimate beef product is increased by the more liberal nitrogenous food supply.[*]

The fat and carbohydrates are the great producers of heat and visible motion. They are the fuel of the engine, and by their oxidation into H_2O and CO_2 produce the heat which works the machinery of the body.[†] The combustion equivalent of one gramme of carbohydrate is 4.1 calories; whereas a gramme of fat yields 9.3 calories, a ratio of 2.4 or 2.2 to 1. The heat value of fat is therefore more than twice as much as that of the carbohydrates, or, in other words, a certain amount of fat yields twice as much heat as the same amount of carbohydrates, and, weight for weight, is worth more than twice the quantity as a source of energy.

Mark states that the heat production of a child of seven kilogrammes is 3.2 kilogramme degrees, and of a man 1.5 kilogramme degrees. This difference is due to the greater metabolism of the infant, and the comparatively greater surface of the body. Consequently, the child produces and dissipates more energy, weight for weight, than the adult.

This would lead to the influence that in a proper infant food the heat-producing elements should be in excess. And this we find to be the case, for mother's milk offers a much larger percentage of fat than is found in any of the adult rations.

If not enough fuel is supplied for the body, then the protein must be used. If the fat which supplies the greatest amount of energy is deficient, its work may be thrown on the carbohydrate, which, in turn, may force it on the protein, and so the higher duty of the protein may be sacrificed to a menial function.

Although it is possible for an adult to subsist on a strictly protein diet, it would be fatal to the delicate digestive organs of a nursing infant. A strictly protein diet requires more work for its digestion and assimilation; and the forcing of such upon the nursling, were it possible, would not be economical, as the valuable heat-producing power of the fat would be lost, and the energy of protein is more valuable than that of the more easily digestible carbohydrate.

Another question which naturally presents itself is not simply what shall constitute a healthful food for the infant, but in what proportions the various elements should be offered. It is a slur upon the medical profession that they should not have studied the feeding of infants with the same zeal that the United States Department of Agriculture has devoted to the feeding of calves, dogs, or even pigs.

The value of whole milk as a food for calves has long been recognized.[*] The fat supplied in this way causes an increase in weight which is not produced by skimmed milk, and the calves fed on whole milk eat less dry substance. In other words, the food supplied by Nature presents the ingredients in the best proportions.

A dog fed on simply meat produced more indican and sulphuric acid in the urine than when white bread was added. The conclusions drawn are that the protein is better utilized and there is less intestinal fermentation when bread is fed with the meat.[†]

From these considerations it is seen that certain proportions must be observed in the preparation of food. Enough fat must be supplied to provide suitable heat and energy. Its excess should be avoided in order that the assimilating powers of the digestive organs may not be overtaxed. With sufficient fat there is no need of adding a large quantity of carbohydrates. These together—namely, fat and carbohydrates—should protect the protein from combustion.

With these should be given sufficient protein to provide for healthy tissue development and repair, remembering that excess of this product may cause gastro-intestinal or other disturbances.

This leads us to a practical discussion of infant feeding. As a guide, we can adopt no better standard for a healthful infant food than that offered by mother's milk. It is not necessary for us to know the influences which cause variations in mother's milk, or to discuss these variations in detail. Suffice it to say that up to the eighth or ninth months the fats vary from three to four per cent.; the carbohydrates, from six to seven per cent.; the protein varies from one to two per cent.; the salts average 0.2 per cent.; the total solids equal 12.20 per cent.; the water equals 87.80 per cent.[‡]

For purposes of comparison, it is convenient to select the milk which is offered during the sixth month of lactation. Chemical analysis at this time shows that there are 12.20 per cent. total solids, composed of fats, 3.83 per cent.; carbohydrates, 6.78 per cent.; protein, 1.25 per cent.; and salts, 0.16 per cent. From this it is possible to calculate the daily ration of the nursing infant

	Amount consumed in 24 hours. Grammes.	Per cent. of total solids.
Fats	39.64	31.4
Carbohydrates	70.17	55.6
Protein	12.93	10.2

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[*] W. H. Jordan. *Maine State Report*, 1895, pp. 36–77.

[†] *Bulletin No. 21, U. S. Agricultural Department.* Methods and Results of Investigations on the Chemistry and Economy of Food. W. O. Atwater, Ph D.

[*] Economical Rearing of Calves. T. F. Hunt and C. H. Zink. *Pennsylvania State Report*, 1891, pp. 112–117.

[†] The Digestion and Assimilation of the Albuminoids of the Food as related to the Composition of the Ration. E. Krauss. *Ztsch. f. physiol. Chem.*, vol. xviii, No. 2, pp. 167–180.

[‡] V. Adriance and J. S. Adriance. A Clinical Report on the Chemical Examination of Two Hundred Cases of Human Breast Milk. *Archives of Pædiatrics*, January and February, 1897.

if we adopt Rotch's estimate of the amount of milk consumed in twenty-four hours by an infant six months old. This is 1,035 cubic centimetres.

*Adult Diet estimated by Mrs. Richards.**

	Grammes.	Per cent. of total solids.
Fats	125–90	17.9–14.5
Carbohydrates	450–420	64.3–67.7
Protein	125–110	17.9–17.7

In comparing the elements of a nursing child's diet at six months and the adult diet, as estimated by Mrs. Richards, it is readily seen that the concentrated fuel supplied by the fat is nearly twice as much in favor of the infant. And while this means only twice as much fat it means more than four times as much heat. The value of this has been explained already and need not be repeated. The carbohydrates show such a slight difference in the two foods under consideration that it is hardly worthy of mention. On the other hand, there is a much smaller percentage of protein in the mother's milk. This is a wise provision of Nature, as it is well known that the protein, especially if excessive, is the great disturber of the infant's delicate digestive organs. The amount of protein offered is sufficient for the proper development of the body, which should be its sole function, and I am inclined to think that the protein of modified milk need not be increased so rapidly as is the tendency at present.

Very little attention is paid to the salts of infant foods, and we can but hope that in the near future investigation will give them the significance they deserve. It has been proved * that in the case of the calf a much larger proportion of the salts are retained than by the adult animal. We may naturally assume that this must be so in the infant. The salts are to the bony framework what the protein is to the rest of the machinery of the body. They are both developing rapidly, and without the chlorides, carbonates, and phosphates of calcium, sodium, and potassium, which mother's milk offers as our guide, there would be no provision for the development of the skeleton and the various metabolic processes in which they are concerned.

The protein of cow's milk, unless properly diluted, coagulates in larger and tougher curds than that of mother's milk. If cow's milk is diluted without proper modification it possesses the disadvantage of being deficient in fat and carbohydrates. Such a food is not only deficient in fuel, but a frequent cause of colic, restlessness, and gastro-intestinal symptoms, and this is due to the small percentage of fat and carbohydrates, which should be present in sufficient quantities to aid the process of digestion and diminish intestinal fermentation. A mixed diet is more easily taken care of than one which is strictly protein, as demonstrated in the experiment on the dog mentioned before. The exacting infant demands, moreover, not only that the food should be mixed, but also in definite proportions.

Condensed milk, as ordinarily diluted for a nursing infant, shows a marked deficiency in fat and protein. A baby fed on such a diet is anæmic, the muscles are flabby, and the child is prone to rickets. Holt says, in reference to condensed milk: "I have seen many infants reared exclusively upon it, but as yet not one who did not show on careful examination more or less evidence of rickets." *

Like condensed milk, the commercial dry milk foods are deficient in fat. Chittenden † has pointed out that this must be so by the very nature of their manufacture, unless milk or cream is added. This deficiency in the fat is compensated for by a large excess of fermentable carbohydrates composed of cane sugar, maltose, dextrin, or starch, as the case may be. None of these foods contain the proper amount of milk sugar which our standard offers. There are also differences in the nitrogenous elements, which in many cases are largely insoluble vegetable protein instead of the easily digestible animal protein which it should simulate.

The general public has been warned against the use of commercial infant foods, but with little effect. Too much stress can not be laid upon their ill effects. They are entirely unfit for use except as medicines for the fulfillment of certain indications. For a time the child may appear to thrive on them, but they do not contain the elements for the development of a healthy constitution, and sooner or later their use is followed by anæmia, rickets, and backward development. A large majority of the cases of infantile scurvy are due to the use of these commercial foods.

In conclusion, mother's milk is unquestionably the best infant food. The only trustworthy substitute for mother's milk is fresh cow's milk which has been properly modified. In this way a food can be obtained which will resemble mother's milk in the percentage of fat, carbohydrates, and salts which it contains.

105 East Thirty-ninth Street.

ADENOID VEGETATIONS OF THE PHARYNX.‡

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The subject of lymphoid growths of the pharynx has perhaps received more attention at the hands of the specialist than any subject in the domain of rhinolaryngology. Hypertrophy of Luschka's tonsil has been known to exist for many decades, but it was to the untiring efforts of Wilhelm Meyer, of Copenhagen, that the profession was made to realize its frequency and clinical importance.

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* Thompson. *Practical Dietetics.*

† *Orgaan ver Oudleer Rijks Landwbouwschool*, ix, 1897, No. 2, pp. 8–11.

* *Diseases of Infancy and Childhood.*

† The Deficiency of Fat in Dry Milk Foods of Infants. *Dietetic and Hygienic Gazette*, October, 1895.

‡ Read before the Jefferson County, N. Y., Medical Society at its annual meeting, January 11, 1898.

In selecting this topic I did so with a view to its practical importance to the general practitioner. It is to him that these cases first come, not complaining of nose or throat trouble, perhaps, but more often of one or more of the many complications accompanying or for which this condition is indirectly responsible. To a few of these I wish to call your attention, as a means perhaps of throwing a little light upon some of the obscure cases that may come under your observation.

Before approaching the subject proper, however, I wish to report three cases selected from my records exemplifying some of the graver complications dependent upon this most important pathological condition, and showing what brilliant results may be obtained by the proper treatment when thoroughly carried out. I wish to emphasize this last statement, for too often we have cases brought to us with the history of having had the tonsils removed, nose cauterized, or throat scraped, without relief of symptoms; the reason for this being, the operator has either not done his work thoroughly or overlooked the main factor in the case—viz., the hypertrophy of the pharyngeal tonsil. We sometimes see a recurrence with return of symptoms after thorough removal, but it is rare, and when it does occur it is usually in young children of lymphatic tendency.

Case I.—Bertha Q., aged eight years, was seen March, 1895; gave a history of having always been a mouth breather and sufferer from "catarrh" since infancy. For past four or five years has been very susceptible to weather changes, so much so, in fact, that she was kept indoors most of the time, and when she was allowed to venture out great care was taken to bundle her up for fear of contracting cold. For about a year prior to my seeing her she had been troubled with a cough, characterized by quite a profuse expectoration, varying in severity from time to time, but always present. The persistence of this cough alarmed the child's parent, and it was feared she was suffering from a pulmonary tuberculosis. In addition to this the child would frequently have what was termed "bilious attacks," anorexia, nausea, vomiting, prostration, etc. In view of these the mother had limited her to a strict diet.

It had been attempted to send her to school several times, with the same result—she would contract cold, with exacerbation of her bronchial condition, frequent attacks of earache, and impairment of her general health. She was one of those children who are often spoken of as delicate, kept in the house most of the time, coddled and cared for constantly. When I saw her she was poorly developed, anæmic, with a thin, bluish-white skin, a dull, stupid expression of the face, and muffled intonation of a nasal quality. Upon examination I found a high, narrow palatal arch, both tonsils moderately enlarged, and the pharyngeal vault the seat of a large mass of adenoid vegetations. In looking into the nose both inferior turbinate bodies were found very much enlarged, but this was shown to be due to only a vascular engorgement. In passing, I will say that, although in most of these cases in children we find enlargement of the turbinate bodies, we rarely ever see a true hypertrophy. Four days later I removed both tonsils and cleared the pharynx under general anæsthesia. Immediately the child was able to breathe freely through the nose and rest quietly. In two weeks' time she had an excellent appetite and cough entirely relieved. She progressively improved in every way, and one year after operation she had had no return of symptoms and not one "bilious attack."

I cite this case as one showing a very exaggerated condition of bronchial irritation consequent upon the obstruction to nasal respiration. The function of the nose in the respiratory act is to warm, moisten, and filter the inspired air. When this function is interfered with and mouth breathing established, the cold air and foreign material pass directly into the larynx and trachea and act as an irritant to the delicate mucous membrane lining the respiratory tract.

Case II.—E. P., aged four years, was referred to me in October, 1897, by Dr. Stevens and Dr. McCreary, of this city. Has always been a mouth breather, is very restless at night, tossing about in bed, and snores loudly. Complains of earache from time to time. Has no life or ambition, is drowsy, and sleeps a great deal during the day. Appetite very poor, with frequent attacks of indigestion, and has always been considered a delicate child. Examination showed a typical adenoid face, anæmia, and a muffled or "dead" voice. The anterior chain of cervical lymph glands on both sides were enlarged, both tonsils hypertrophied, and the vault of the pharynx filled with lymphoid masses. The turbinate bodies were very much enlarged. Operation was recommended, but, as the patient was just recovering from an acute attack of amygdalitis, it was thought best to postpone operative interference for a short time while he was passing through the stage of convalescence. For three or four nights prior to the operation his breathing was so very difficult that he had to be frequently raised in bed to allow respiration to go on and was constantly watched. On November 9th, with the assistance of Dr. Stevens and Dr. McCreary, I did a double tonsillectomy and adenectomy under chloroform. Immediately the little patient was able to breathe freely and quietly through the nose, and from that time on he gradually improved. I saw this patient on January 1, 1898; he is much brighter, has an excellent appetite, taking his food with a relish, color better, and such a marked change in his voice that his mother says it sounds unnatural. This is an example of a class of cases which is of unusual importance to the general practitioner, for often he is called to see these little sufferers when, and correctly so, a diagnosis of croup or asthma is made, but the cause of the trouble is overlooked.

Dr. James, in the *Medical Record* for April 17, 1897, reports a unique case touching this point. He was hurriedly summoned to perform a tracheotomy on a child three years old, who had been suffering for three days from a severe attack of croup, which had failed to respond to all remedies. Hypertrophy of both faucial tonsils and adenoids in the pharyngeal space were found. A double tonsillectomy and adenectomy was done instead, and in five minutes the child slept with closed lips and without a trace of croup or laryngeal stridor. He believes the explanation of this condition to be in the fact that in mouth breathing children the unmoistened inspired air dries and renders irritable the mucous surfaces of the larynx, thus predisposing toward laryngeal spasm.

In repeated attacks of spasmodic croup and stridulous breathing it would be well to keep in mind the fact that often lymphoid growths of the pharynx stand in direct causal relation. Further complications, and even death, sometimes are prevented by early surgical treatment of the hypertrophies.

CASE III.—Henry G., aged twelve years, referred to me in September, 1896. The following history was elicited. His mother had died from some ear trouble two years before. Up to the age of six years he was perfectly well so far as could be ascertained. At that time he suffered from a severe attack of scarlatina, accompanied by quite active inflammation of the tonsils and pharynx, and a discharge from the right ear. Since that time he has been a mouth breather and suffered from frequent attacks of earache and a constant "catarrhal" condition. He is very nervous and irritable at times, restless, and snores loudly. Is dull, inattentive, has a blank, stupid expression, and has dropped behind in his classes at school. Is troubled with frequent attacks of indigestion and headache. For the past year it has been noticed that he would shrug his shoulders, toss his head from side to side, and elevate the eyebrows. Lymphoid growths of the pharynx were diagnosticated, and two days later, under chloroform anæsthesia, I removed them. Nasal respiration was established immediately following the operation, and he began at once to improve. Two months later all trace of muscular twitchings had disappeared, his mental condition had improved, he had increased in weight, and the ear symptoms were relieved. He resumed his school duties with increased vigor, and for the remaining portion of the term was able to apply himself to his work seemingly with little effort.

In this case the reflex neuroses and the effect upon cerebration were the most prominent symptoms. These cases have recently been attracting the attention of investigators, and they now agree that the mechanical effects of these hypertrophies are inadequate to account for the great disturbances of nutrition, both bodily and mental, associated with them and relieved by their removal, and are looking for a more intimate relation than we are now able to give.

Dr. Harrison Allen advances an hypothesis explanatory of the probable relation. He points out the resemblance between the lower portion of the pituitary body and the pharyngeal tonsil, and says that during fœtal life there is a connection by means of a canal through which the top of the pharynx communicates with the interior of the skull, so that these masses of glandular tissue must have originally formed a portion of the original pharynx.

Piersol also refers to the anterior lobe of the pituitary body as the anterior oral, and says it differs from the posterior in structure, the anterior lobe being derived as a diverticulum from the primitive oral cavity.

A number of other observers refer to the intimate anatomical and histological relation between these growths of the pharynx and the pituitary body and suggest that structures which were continuous originally may yet retain reflex sympathy. If such does exist, it would account for innumerable reflex phenomena which heretofore we have been unable to explain.

I wrote a number of careful observers asking them for their views on the effects of these growths upon cerebration. They were unanimous in the opinion that mental action was impaired. Dr. James E. Newcomb, of New York, in his reply, says: "I certainly do believe that many of the adenoid children are mentally deficient, owing to poor brain circulation and congestion at the base, where there is a connection between the lymph vessels of the pia and those of the nasopharyngeal space."

The ætiological factors in the development of these growths are, I believe, in the large majority of cases, an inherited diathesis, repeated attacks of acute posterior nasopharyngitis, and the acute exanthemata, especially scarlatina. Embryologically, the pharyngeal tonsil is the first to appear and the first to atrophy, usually disappearing about the age of puberty. Sometimes, however, it persists and interferes materially with the circulation of the nasopharyngeal space.

Adenoid vegetations are not neoplasms in the true sense of the term, but are simply hypertrophies of the mucous aspect of the glands. They are composed of lymphoid follicles covered by ciliated columnar epithelium, and are of the same general structure as enlarged tonsils, but with less connective tissue. This is accounted for by the fact that they are well protected from the irritating influence of food and drink. The common occurrence of adenoid vegetations and the pathological conditions dependent upon them make it important that we recognize them as early as possible. We should experience little difficulty in making a diagnosis of lymphoid growths in the pharynx by simple observation, for the history and picture we see are in many cases pathognomonic.

"Catarrh," mouth breathing, pinched nostrils, "dead" intonation, stupid expression, mental dullness, and recurring earaches in children are, with few exceptions, associated with hypertrophy of the pharyngeal tonsil. However, if we are in doubt and wish to confirm our opinion, the most satisfactory means is by digital exploration. The method of posterior rhinoscopy is reserved for older children and adults.

In regard to treatment, I share the opinion of most observers that there is only one method which gives satisfactory results—viz., surgical. Literary research and my clinical experience bear me out in the statement that there are few operations in the domain of surgery which relieve the condition more immediately and permanently than the one under consideration.

While most operators differ more or less on minor points and technique, the operation in the main is the same. I will simply outline the operation I make, and which has given me exceedingly satisfactory results. I always give children a general anæsthetic because they are easily frightened, unmanageable, and a more thorough operation can be done when it is used. The anæsthetic of selection with me is chloroform, when there are no contraindications. Children take it nicely, with very little excitement. It does not produce as much congestion of the throat and nasopharyngeal space as ether, thus eliminating a factor in excessive post-operative hæmorrhage. I use the recumbent position, with the shoulders somewhat elevated and the head hanging over the table, so that the opening of the larynx is on a higher level than the mouth and nose, which allows free respiration without the danger of blood or shreds of tissue getting into the trachea. After the child is anæsthetized and a Denhard's mouth gag inserted, I make a digital examination of the pharynx to locate definitely the position of the growths. Then with a Gottstein antero-posterior curette it takes but a very short time to thoroughly cut away these adenoid masses. The hæmorrhage, which is quite free at first, soon stops, after which the child is put to bed and kept there on fluid diet for thirty-six hours. After this he seldom experiences any discomfort and is allowed to be up about the house, and at the end of a week's time is given his usual freedom.

In conclusion, let me impress upon you as general practitioners the great importance of this frequent pathological condition, and urge that when these hypertrophies are found, you will hesitate to resort to surgical interference as the only means oftentimes of preventing irreparable complications.

35 Washington Street.

THE DEATH-RATE AND WATER SUPPLY OF ATLANTIC CITY.

By WILLIAM EDGAR DARNALL, A. B., M. D.,
ATLANTIC CITY, N. J.

Nature's lavish hand has been so kind to few places as to Atlantic City. Situated on an island surrounded by salt water, it lies in the lower section of New Jersey, which is a part of the upper extension of what is known as the Carolina Belt. This term is used to describe a belt of country extending across the continent which is uniform in growth, productions, climate, and conditions, and which is similar in these respects to the Carolinas. Mildness of temperature is, of course, a salient feature, and this city may be said, therefore, to have the same climate as that of the Carolinas. Indeed, the island has frequently been called the "Florida of the North," and not without reason.

Its soil is porous, sandy, and devoid of vegetation except in a limited way. The beach front, remarkable for its beauty, extends for ten miles from the inlet to Longport, while to the shoreward lies a five-mile stretch of salt meadow land. The purest air to be found is that containing the largest percentage of ozone. This, as is well known, is found over large bodies of sea water, while the atmosphere of large cities by comparison has practically no free ozone at all. Surrounded, therefore, entirely by ocean water, this island enjoys an atmosphere of remarkable purity, invigorating, buoyant, unvitiated by factory smoke, slum filth, and city dust particles, and in itself antiseptic to bacterial growth.

With these environments its natural sanitary condition is perfect. The rapidly growing population and increasing influx of visitors made it apparent years ago that, in order to maintain such an advantage, good sewerage and he systematic disposal of garbage would be necessary. A sewerage system was accordingly constructed after the most modern scientific methods, and a garbage plant established in which all garbage is thoroughly consumed by fire. Added to this, the vigilance of the health authorities in keeping the city clean, and an almost perfect water supply, make an epidemic of an infectious disease a practical impossibility. Sporadic cases occasionally occur here. They occur everywhere. They are, however, usually mild in their attacks, are frequently aborted, or run an atypical course.

The water supply of every resort is a question of the first importance. If it is not good, people soon learn to avoid the place. It is useless for a tired, worn-out body or a sick person to go to a resort in search of health and recuperation only to find that he is unable to drink the water without unpleasant effect. The change will be of little benefit if during the whole time the water disagrees.

The water should also be above a suspicion of infection. If the strong and healthy contract disease through the agency of polluted water, how much more susceptible are the weakened systems of those in search of health! The examinations given below, which were recently made by Professor William P. Mason, professor of chemistry, Rensselaer Polytechnic Institute, Troy, N. Y., demonstrate beyond question not only the potability of the water, but also that that coming from the artesian wells, which practically furnish the entire consumers' supply, has most valuable mineral properties.

The city supply is drawn from three sources: (1) Springs on the shore land; (2) the Absecom wells; (3) artesian wells.

1. Of the spring water, Professor Mason says: "This water may be said to be generally fit for domestic use, and has never been associated with sickness of any kind." The analysis is as follows:

In Parts to the Million.

Free ammonia	.005
Albuminoid ammonia	.065
Chlorine	5.5
Nitrites	None.
Nitrates	.2
Required oxygen	2.65
Total solids	32.

2. The Absecom water is drawn from wells thirty feet in depth. Professor Mason testifies that "it is of excellent quality. You are fortunate in having so good a supply. The water is not of local origin, being quite distinct in character from those of your immediate neighborhood, and, although the wells supplying it are but thirty feet in depth, there are sundry reasons why it would be proper to classify it as a 'deep-seated water.'" This water, coming thus from a distance along geological strata which inland are further from the surface, may be viewed as being a similar water to that flowing from the artesian wells. Doubtless its real source is just as deep. Its analysis is appended:

In Parts to the Million.

Free ammonia	.023
Albuminoid ammonia	.050
Chlorine	9.
Nitrites	trace.
Nitrates	.500
Required oxygen	.400
Total solids	30.200
Silica (SiO_2)	7.75
Oxides of iron and aluminum ($Fe_2O_3 + Al_2O_3$)	0.51
Sodium chloride ($NaCl$)	6.40
Magnesium chloride ($MgCl_2$)	4.03
Calcium chloride ($CaCl_2$)	3.30
Calcium sulphate ($CaSO_4$)	5.03
	27.02

3. The artesian water is obtained from wells sunk from eight hundred to fourteen hundred feet below the surface. The water-bearing stratum is a filter of most approved make, and fashioned many an age ago by Nature herself. It consists of gravelly sand. From it wells up a water, the potability of which is above question, delightful to the taste, and medicinal in its qualities. A sanitary examination of such water would be superfluous. Hence the mineral analysis only is appended:

In Parts to the Million.

Silica (SiO_2)	35.5
Oxides of iron and aluminum ($Fe_2O_3 + Al_2O_3$)	1.8
Magnesium sulphate ($MgSO_4$)	8.4
Calcium phosphate ($Ca_3[PO_4]_2$)	2.0
Calcium carbonate ($CaCO_3$)	23.6
Sodium sulphate (Na_2SO_4)	39.7
Sodium chloride ($NaCl$)	10.7
Sodium bicarbonate ($NaHCO_3$)	23.1
	144.8

Not enough attention has been given to this valuable water in the past. While it was known that it possessed mineral properties, no accurate and reliable analysis had been made before the autumn of 1897. Again, while visitors recognized that the water here was of exceptional quality for a seaside resort, the benefit received by a stay here was attributed entirely to the remarkable climate, and the tonic influence of the water was left unrealized and undiscovered. The usefulness of such a water is apparent at once from a glance at the analysis. It is unnecessary, therefore, to review the many systemic conditions in which benefit may be derived from it.

For many years experience has taught physicians that for rickety children and strumous types no better advice could be offered than a stay at Atlantic City. It is now seen that the climate should not have *all* the credit for their rapid improvement, but that the increased oxidation promoted by a richly ozonized atmosphere is materially aided by the fact that the water, which flows so freely, contains a large percentage of the carbonate and phosphate of calcium and the oxide of iron in combination. With iron and the lime salts in the water, and so much oxygen in the air, how could they fail to improve?

Again, note the combination of iron and phosphates with magnesium and sodium sulphates. Here is the ideal saline chalybeate tonic so widely recommended in text-books of medicine, and so useful in certain diseases of women. This is a prescription *par excellence*, dispensed by a pharmacist whose perfect methods baffle imitation, and on whom we can at least rely not to practise substitution.

Nature seems thus to have conspired to make this a perfect refuge for the sick and afflicted. Her gifts have been bestowed freely and without stint. Not only has she provided a climate wonderfully mild in temperature, an atmosphere bracing and invigorating, and laden with ozone, bromine, chlorine, and iodine, stimulating and alterative to the entire system, but also a drinking water supply of invaluable qualities, which is as free as the ocean itself. What more could a distinctly health resort desire? It would hardly seem necessary for convalescents and anæmics here to resort to tonic treatment at all. Such accords with the past experience. Patients emerging from an acute and exhausting disease or operation frequently come to a standstill under the best of treatment; and there they stay for weeks at a time without appetite or vitality, and without improvement. Most of these cases are found to improve from the time they reach Atlantic City, and frequently need no medical attention whatever. "Throwing physic to the dogs," they gain quickly in health and weight under the influence of Nature's own treatment, which can not be improved upon.

It may be argued that a place existing under such perfect conditions of health and sanitation should show a very small death-rate. A glance at the statistics of the board of health will easily corroborate the statements that have been made. But it must be also borne in mind that a goodly number of the inhabitants who compose the resident population are persons who are broken down in health, unable to live at their former homes, and who are here by reason of their poor health and worn-out constitutions.

The records of the board of health for the year ending August 1, 1897, show but two deaths from typhoid fever, two from diphtheria, and one from scarlet fever—five deaths in all from infectious disease among a population of twenty-three thousand souls.

Also, the number of deaths among the resident population was during the year two hundred and nineteen. This gives a death-rate of 9.52 to one thousand inhabitants—*the lowest death-rate reported so far from any city in the United States.*

The year in question is a fair sample of other years. The figures will not vary much from those here shown. The nearest approach to this rate is that of Los Angeles, California, and Ashtabula, Ohio. The death-rate of each of these cities is twelve and a fraction.

Country districts are ordinarily considered the *summum bonum* for conditions of health, yet when it is remembered that the average death-rate for country communities reaches fourteen to the thousand, the death-rate for Atlantic City is truly astounding. It is of interest also to note that of the 219 deaths reported, 23 were from accident, suicide, etc., 12 from premature birth, and 27 stillbirth, while 93 of the whole number—about forty-two per cent.—were children under one year of age. Eliminating now deaths from accident, etc., stillbirth, and premature birth—a total of 62—there are left 157 deaths, or a death-rate from disease alone of 6.82 to 1,000 inhabitants.

Such a record as this any city would be proud to refer to. It easily places Atlantic City far in the van of all other communities, either city or country, and stands in striking contrast to other cities of similar and smaller size, with death-rates up near the twenties.

In conclusion, I wish to acknowledge the kindness of Clerk Glenn, of the board of health, and W. C. Hawley, superintendent of the water company, for valuable data furnished.

Therapeutical Notes.

The Use of Digitalis in the Treatment of Diseases of the Heart.—In the course of the second of his Lumleian Lectures (*Lancet*, April 2, 1898) Sir Richard Douglas Powell, Bart., M. D., remarks that the commonest mistake that one observes in the use of digitalis is that too large a dose is prescribed at first, which tends to premature arterial contraction and cumulative effects. Then with the appearance of these physiological symptoms the use of the drug is stopped and that of some other medicine substituted until the pulse again calls for its administration. In this haphazard way of using digitalis the heart is never held in good control. In exceptional cases, where there is urgent need to push the drug, digitaline is best used subcutaneously. In ordinary cases a dose of ten minims of the tincture every four hours, or fifteen minims every eight hours, or five minims every waking hour is sufficient. Thus given, the patient being at rest, it generally takes about three days before the pulse is under control and the urine begins to increase. When its decided effects are thus gradually developed the use of the drug should be steadily continued in doses calculated to maintain its effect. With ordinary watchfulness there is no risk whatever; timely warning of excess is given by the pulse, which having become slow, begins to exhibit small intermediate beats and especially a tendency to go in couples. This is always a sign to reduce the doses or to omit them for a few hours. The sickness that occasionally supervenes with digitalis is most troublesome. An occasional mercurial will sometimes prevent it, a change to digitaline in equivalent doses may be tried, or a tumbler of very hot water may be taken occasionally. In some cases it is not to be overcome except by omitting the use of the drug; the patient is usually well under the influence of the drug before this symptom appears, in which case a small dose of digitaline by the mouth or hypodermically may be sufficient to maintain its effects on the heart.

An Ointment for Pruritus.—The *Journal de médecine de Paris* for April 10th gives the following formula:

℞ Neutral lead acetate	10	parts;
Cocaine hydrochloride	15	"
White vaseline	300	"

M.

Salomon's Mixture for Infantile Convulsions.—This formula is given in the *Centralblatt für die gesammte Therapie* for April:

℞ Musk	7	grains;
Gum arabic	30	"
Fennel water, Syrup of orange peel, } each	450	"

M. S.: A teaspoonful every hour or two.

The Treatment of Puerperal Infections with Aromatic Essences.—A Spanish *confrère* has been following this method of treatment with "surprising and immediate success." He states that a single thorough application should be followed by a fall in the temperature in a few hours and he has never observed any secondary effects. He uses turpentine or essence of bergamot, and was led to attempt the treatment by his success in treating infected ulcers and wounds with turpentine. The essence is applied on a wad of cotton, inserted with curved forceps, and the intra-uterine surface painted with it, squeezing the essence well into the tissues, but never leaving it permanently. No speculum is required, although a preliminary vaginal irrigation is advisable. This treatment has been applied to all cases at the Maternity and in his practice for over a year, with invariable success. One application a day is sufficient, except in case of gangrene or diphtheritic patches. He begs those who wish to observe the results of the treatment to apply it first in cases of infection of the vulva or entrance to the vagina, when they will see the aspect of the ulcerations alter before their eyes. Wherever applied the fall in the temperature is constant.—E. Corminas, *Rev. de Cienc. Med. de Barcelona; Journal of the American Medical Association,* April 16th.

Uranium for Coryza.—A writer in the *Revue médicale* recommends a five- to ten-per-cent. solution of uranium acetate in distilled water in the treatment of coryza, two or three drops to be snuffed up daily.—*Western Druggist,* April.

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THE MEDICAL ASPECT OF THE WAR WITH SPAIN.

AT last war is upon us. There is every reason to expect that it will not assume the terrible aspect of our internecine struggle in the sixties; indeed, it does not seem likely that there will be any contest on our own soil even in Texas, where there is said to be some apprehension of a raid on the part of hot-heads from over the Mexican frontier. There is warrant for going further, we think, and entertaining the idea that our land forces will take but little part in actual battle and may not be sent out of the country at all. An effective blockade of Cuban ports and the furnishing of arms, ammunition, and other supplies to the revolutionists ought to suffice, one might suppose, for the liberation of the island without our actual cooperation in the field. At least the Cubans themselves are understood to have given out that they ask for nothing more at our hands. If, however, contrary to our supposition, the sending of troops to Cuba becomes necessary, it is at all events to be hoped that it will not have to be done until after the worst of the summer weather is over. The advantages of delay are obvious. None but the regulars are yet in good condition to go, and it will be months before the volunteers, even if they are made up in great proportion of members of the National Guard, will be in good form for campaigning. But above all this there is the far weightier matter of regard for the men's health. It is our duty not to send men, whether regulars or volunteers, to such an unwholesome country as Cuba is at present except under urgent need, for many of them would shortly be prostrated with disease.

Nevertheless, no man can tell how long the war is to last or what exigencies will arise to call for moves that now seem reasonably sure not to be required. We must make our preparations, therefore, with that element of uncertainty in mind. Our force must be a large one, and it must be well provided for in every respect, including the items of food, drinking-water, shelter, clothing, camp and transport policing, and medical service. We feel very sure that in all these respects our army will have all the advantages that it is legitimate for it to expect from the advances that have been made in the care of troops of late years. In particular, we are confident that the medical corps is in a state of the highest efficiency, and that it will not be cramped in the matter of supplies. It is not alone to the medical corps of the army, moreover, that we look for the protection of our men's health; the officers of the Marine-Hospital Service, several of whom have been on duty in Cuba, will undoubtedly be able to render most efficient cooperation by virtue of that experience and of their familiarity with yellow fever and the severer forms of malarial fever. If a land campaign takes place, and if the struggle proves to be prolonged, convalescent camps at least, if not regular military hospitals, will have to be established within our own borders, we should say, for it will be well on all accounts to send home all who contract grave forms of disease or are severely injured, in case their condition admits of it. It may be safely assumed that the government has thought of all these things and made provision accordingly. We look, therefore, to see the physical needs of our men as well looked after as the state of war admits of.

PHYSICAL EXAMINATION OF THE HEAD IN CASES OF SURGICAL AFFECTIONS OF THE BRAIN.

A WRITER in the *Klinisch-therapeutische Wochenschrift* for April 10th remarks that, while individual instances have been observed of the presence of localized tenderness and well-defined murmurs corresponding to the situation of tumors of the brain, percussion of the skull has not hitherto been systematically employed as a diagnostic aid in diseases of the brain. Recently, however, De Paoli and Mori, of Perugia (*Policlinico*, February 15, 1898), have reported having established not only the presence of brain lesions, but also their situation, by means of cranial percussion in a number of cases. They find that on percussion of the skull in healthy persons absolute dullness is elicited only in circumscribed spots, and that everywhere about the head there is a tympanitic tone accessory to the percussion note. This accessory note is particularly well marked in the regions of the frontal eminences and of the temples. In this respect the mastoid process shows in different individuals a variability on percussion, and this is attributed to variations in the amount of air contained in its cells. In pathological states the differences on percussion are more pronounced than in normal conditions. Experiments with different semisolid substances introduced into the cranial cavity show that the dullness on percussion is most decided at those points where there is the greatest quantity of the foreign material. In their experiments the authors have found the variations of the percussion note so decided that by means of them they have been able to ascertain with great nicety the situation of artificial lesions of the brain produced by injecting liquids through the foramen magnum.

In the case of a patient who had had severe epileptic attacks in consequence of a fracture of the frontal bone pronounced dullness of the frontal region was observed after his death. On opening the cranial cavity, the authors found the remains of an extravasation of blood corresponding in extent to the area of dullness. In another case, that of a patient with right hemiplegia and aphasia consequent on an injury of the right occipital region, dullness was elicited not only at the site of the lesion, but also on the left side of the head, in the parietal region. This disappeared gradually with the improvement in the hemiplegic phenomena, and was attributed to a lesion caused indirectly by the injury, probably an intracranial hæmatoma in the left parietal region. In a case of tuberculous meningitis the recognition of decided dullness over the right half of the skull led to the conclusion that the preponderance of the anatomical lesions was on that side, and this was corroborated post mortem. Furthermore, the history being recalled, together with the fact of heightened dullness of the right half of the frontal bone, the diagnosis was made of an abscess in the corresponding lobe of the brain, and this was confirmed on opening the cranial cavity.

MINOR PARAGRAPHS.

PRESSURE REDUCTION OF INTUSSUSCEPTION.

In the *Cleveland Journal of Medicine* for April, Dr. Samuel W. Kelly gives some practical points on the use of hydrostatic and pneumatic pressure in the reduction of intussusception. Referring to Forest's rule that eight or nine pounds pressure to the square inch is borne by the infant's intestine (an elevation of two feet and a half corresponding to one pound pressure to the square inch), he calls attention to the fact that the element of time is of great importance also, and states: "I do not know that I am prepared to give at present precise figures, but I think that I am not far wrong in saying that a pressure of three to five pounds for twenty-five or thirty minutes or longer is more efficient and safer than a pressure of seven or nine pounds for five or ten minutes. Now, this holds true with pressure with any material used." As regards the use of air, he considers that it has advantages in that with air you feel more readily the giving way of the tumor, and further that air will penetrate where water will not—viz., above the ileo-cæcal valve. Its disadvantage is that in the probable absence of air chambers, gauges, etc., there has been available no way of early and practically measuring the pressure of air. This difficulty Dr. Kelly has obviated by using the air first, filling the gut and raising the pressure very moderately, then introducing water after the air. The water pressure is very readily measured by the elevation of the fountain, and, this following the air, it is to be presumed that the air pressure is equal to the water pressure. One can gauge it in this way very easily. Saline solutions (a drachm to a quart) at a temperature of 100° to 105° F. are preferred as being less irritating, tending to overcome shock, and being additionally useful should electricity be employed. This can be done while the water pressure is still on, one pole being applied in the saline solution in the rectum, the other outside the abdomen over the tumor.

THE DANGERS OF IODINE PREPARATIONS IN PHTHISIS.

The Montreal *Clinique* points out that among the toxic symptoms of iodism are some having their seat in the lungs and characterized by cough, muco-serous sputa, and pleuritic pains. An abundant serous transudation has been found in dogs subjected to subcutaneous injections of iodine in solution of potassium iodide (*iodo-iodurée*). From this it is concluded that the administration of iodides may lead to pulmonary congestion and softening. A case is recorded by Dr. P. Vitvitzky, of Kharkow, lending color to this view. A woman of twenty suffered from cough, with irritation of the throat, dysphagia, and suspicious signs at the apices. She had no fever, however, and the general health was excellent. There were marked congestion of the larynx and ulceration of the vocal cords. In consequence of a suspicion of the syphilitic origin of the trouble, iodide of ammonium was given in daily doses of thirty grains. After eight days a marked aggravation occurred in the patient's condition; the cough increased, fever supervened, râles and an intense bronchial souffle appeared at the apices, the bacilli of tubercle, previously absent, were found in the sputum, and gradually the clinical picture of acute phthisis was displayed, terminating in the death of the patient.

ANONYMITY IN LETTERS TO THE MEDICAL PRESS.

A writer in the *British Medical Journal* for April 9th winds up his letter as follows: "It is a pity that men who have excellent and just ideas should weaken the effect of their expression by writing over *noms de plume.* An anonymous letter can never carry the same influence as one signed by its writer, but always to some extent implies that its author is doubtful himself of its justice." This statement seems to us altogether too sweeping. A distinction must be made between arguments and a recital of what purport to be facts. In the latter case the credence to be given to such statements is dependent upon the credibility of the witness; and this is the resultant of several factors, his sincerity, his general trustworthiness, his capacity for accurate observation, etc. In this case, therefore, if his name is one well known, it adds credibility to his recital; and even if it is not, it at least is a guarantee of good faith. But in the matter of argument the case is altogether different. The premises being accepted, a logical argument holds equally good by whomsoever stated, and should commend itself to all who by the possession of a logically trained mind—and to these alone it is addressed, if it is not an *ad captandum* appeal—are competent to judge of its validity. In scientific argument the weight of authority, so far as regards the soundness of reasoning, has no place; and the presence of an influential name attached to a piece of specious or faulty logic may overawe more timid minds into an acquiescence which they would not otherwise have accorded. Statements of fact should always be substantiated by the guarantee of a name, but opinions on them or deductions from them may, if so desired, be left to stand or fall on their absolute merit.

A MEDICAL VICE-CHANCELLOR OF CAMBRIDGE, ENGLAND.

THE election of Dr. Alexander Hill, master of Downing College, Cambridge, to fill the office of vice-chancellor of the university is an indication of the increasing influence and recognition of the medical faculty in the older universities of England. It is only within quite recent times that the graduates in medicine have had any substantive university status to speak of, such of them as happened to be in any way prominent attaining that prominence rather by virtue of their precedence or preeminence in one of the collateral faculties of arts, law, or theology. The profession of medicine in England is mainly indebted for this change to the late Sir George Murray Humphry, M. D., F. R. S., professor of anatomy to the University of Cambridge, to whose untiring and well-directed efforts the building up of the present status of the medical faculty and school there is chiefly due.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 23, 1898:

DISEASES.	Week ending Apr. 16.		Week ending Apr. 23.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	12	0	7	2
Scarlet fever	265	16	247	16
Cerebro-spinal meningitis	0	12	0	0
Measles	198	21	449	24
Diphtheria	204	34	224	37
Croup	17	6	20	8
Tuberculosis	174	159	215	127

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, cholera, and plague were received in the office of the supervising surgeon general during the week ending April 23, 1898:

Small-pox—United States.

Mobile, Ala	April 13	1 case.	
Pulaski County, Ark	April 7–14	8 cases.	
Washington, D. C	April 9–16	1 case.	
Louisville, Ky	April 16	1 "	
Philadelphia, Pa	April 13	2 cases.	

Small-pox—Foreign.

Prague, Bohemia	March 26–April 2	12 cases.	
Gibraltar	March 27–April 3	1 case.	
Christiania, Norway	March 31–April 6	1 "	1 death.
Odessa, Russia	March 26–April 2	6 cases,	1 "
St. Petersburg, Russia	March 19–26	24 "	

Cholera—Foreign.

Bombay, India	March 15–22		3 deaths.
Calcutta, India	March 6–12		18 "

Plague.

Bombay, India	March 15–22		1,259 deaths.

A Congress for the Study of Tuberculosis will take place at the Faculty of Medicine, Paris, from July 27 to August 2, 1898, under the presidency of Professor Nocard; vice-president, Dr. Hérard. We learn from the *Journal des praticiens* that the following is a list of the subjects: Sanatoria as a Means of Prophylaxis and Treatment of Tuberculosis, by Dr. Le Gendre, Dr. Netter, and Dr. Thoinot; Sera and Antitoxines in the Treatment of Tuberculosis, by Professor Landouzy and Professor Maragliano; The X Rays (Radioscopy and Radiography) in the Diagnosis of Tuberculosis, by Dr. Beclère, Dr. Blaude, and Dr. Teissier; The X Rays in the Treatment of Tuberculosis, by Professor Bergonie, of Bordeaux, and Professor Lortet, of Lyons; The Struggle against Animal Tuberculosis by Prophylaxis, by Professor Bang, of Copenhagen; The Struggle against Human Tuberculosis by the Disinfection of Dwellings Occupied by Tuberculous Persons, by Dr. A. J. Martin; The Propagation of Tuberculosis in the Army, and its Prevention, by Professor Vallin. While allowing to the members the right to choose a certain number of subjects not included in the preceding list, the committee wishes to call particular attention to the following points: The semeiological and prognostic value of tachycardia in pulmonary tuberculosis; and the communication of tuberculosis by milk and meat, with the means of preventing it, especially in regard to practical means of obtaining sterilized milk and generalizing its use.

The Question of Yellow-Fever Precautions in Cuba.—In a recent interview with Dr. John Guitéras reported by a correspondent of one of the leading papers of Philadelphia, the *Press*, Dr. Guitéras expressed himself substantially as follows: "At the present time there is not the slightest danger to be apprehended from yellow fever in Cuba. The island is usually free from the disease till the middle of June or later. Then the yellow-fever season sets in and continues until the last of October. It is at its height during the months of August, September, and October. There has been a lot of discussion concerning the prevention of the disease by 'individual precaution.' These measures of prevention for individual cases are worthless. The disease ought not to be treated from the standpoint of the individual, but from the standpoint of the mass. The most important measures to be taken to prevent the spread of the disease in the invading army would be general measures affecting the distribution of troops, the manner and place of landing, the location of distributing centres of supplies, and the selection of sites for the establishment of camps. Outside of the yellow fever in certain seaport towns of Cuba we may consider the climate salubrious. Malarial fever and dysentery are not commoner than they were with us during the civil war. Havana and other seaport cities in Cuba are really the danger spots of the disease. The interior of the island is free from yellow fever. Another precautionary measure to be taken would be for all supplies for the army to be shipped directly from the United States." Dr. Guitéras thinks it will require several years to put Havana in proper sanitary condition so as to make it cease being a focus for the spread of the disease throughout the island and thence to our southern coast.

Lobster Poisoning Simulating Atropine Intoxication.—*Nouveaux remèdes* (Paris) for April 8th records an observation by Dr. E. Fischer of a man and two women in the same house who, after eating lobsters, were seized with repeated bilious vomitings, dryness of the throat with difficulty of deglutition, slight dilatation of the pupils with imperfect accommodation, obstinate constipation, general feebleness, and clouding of the intellect, all these symptoms coinciding with suppression of perspiration. Evacuations were obtained only by means of large doses of castor oil, senna, and sulphate of magnesium, aided by soap enemata. These measures, however, exercised no control over the toxic symptoms, which yielded only to subcutaneous injections of three twentieths of a grain of pilocarpine hydrochloride. The eye troubles were overcome by one or two drops of a five-per-cent. solution of eserine applied twice daily.

The Philadelphia Medical Colleges and the War.—It is stated that Dr. Martin H. Williams, chief of the surgical clinic at the Jefferson Medical College, with four other physicians of the staff and eight trained nurses, will organize a relief corps, or hospital corps, and will offer their services to the Government. The staff of the Medico-chirurgical College recently held an enthusiastic meeting relative to the same subject, and it was decided to offer the services of the staff and the beds free of charge to the wounded soldiers and sailors. At the University of Pennsylvania most enthusiasm has so far been shown, and many of the graduating class have passed final examinations and will join the National Guards of their respective States. A member of the football team (Mr. Woodruff) has met with so much encouragement that other colleges have been invited to send men, and he now has almost enough men to form two regiments.

Incontinence of Urine as an Early Symptom of Ovarian Cyst.—Dr. Henri Picard records under this heading (*Journal de médecine de Paris*, April 3d) a case in which nocturnal incontinence came on quite suddenly in a woman of forty-five. Treated unsuccessfully for some time, it at last yielded for a while to slowly interrupted faradaic current, but the improvement was not permanent. Further examination disclosed in Douglas's pouch a tumor of about the size of a small egg, very hard and increasing rapidly, since in two months and a half it had grown to the size of a large orange. The tumor, which was removed by Pozzi, proved to be an ovarian cyst. Presumably, from the heading of the article, the incontinence disappeared with the removal of the tumor, though it is not so stated.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 23d inst., the following microscopic specimens were to be presented by Dr. J. B. Ross: Nævus pilosus pigmentosus; melanosarcoma e nævo pigmentoso natum; nævus pilosus pigmentosus sarcomatoides; and nævus pilosus polyadenomatoides. Dr. R. Pinckney French was to read a paper on Intestinal Obstruction from Appendicitis.

Wicking in the Drainage of the Peritoneal Cavity.—Dr. M. H. Delagénière reports to the *Gazette de gynecologie* for April 1st his method of draining the peritoneal cavity by means of sterilized wicks contained in sterilized metal tubes. Those cases in which a considerable focus has to be kept isolated from the general cavity are drained by two such tubes, one in the wound and one in a counter-opening. The metallic tubes are pierced by apertures in their lower halves. The upper extremity has a rebate. The tube is approximately from three and one fifth to four and four fifths of an inch long, and its diameter varies from about three fifths to four fifths of an inch. In the interior of the tube there is a wick of absorbent cotton which spreads out at its two extremities on the skin and in the abdomen. These wicks can be changed. This method of drainage is stated to have given excellent results in practice.

The Philadelphia Water Supply.—Filtration of water is still the cry in Philadelphia. The Philadelphia County Medical Society at its recent meeting again brought forward the question of public ownership of a filtration plant for the city. Now, after some of the bribery scandals have been exposed in councils, it is hoped to make some headway. It was stated at the meeting that the public safety demanded the immediate enactment of such legislation as might be necessary to authorize the construction, maintenance, and operation under public ownership and control of a proper filtration system. The society commended the course of those members of the councils who have always labored for public control of the water system.

Overcrowding at the Philadelphia Hospital.—Not long ago the attention of the members of the City Councils was drawn to the overcrowded condition of the insane wards of the above-named hospital. It was stated that so many patients had been admitted that many had to sleep in the aisles because there was not sufficient room for their bed accommodation. This has now all been remedied by a recent ordinance passed appropriating $60,000 for the erection of two insane wards of the hospital.

Old-time Hospitals and Clinics.—Dr. Claudius Henry Mastin, of Mobile, gives some interesting notes of old-time hospitals and clinics in the *Alabama Medical and Surgical Age* for April. Personal retrospects of this kind have both an instructing and an entertaining character, provided only that the narrator has the power of word painting.

The Philadelphia Emergency Corps, through their representative, Dr. T. H. Andrews, of the Department of Public Safety, have tendered their services to the government. The corps includes all police surgeons and assistant medical inspectors. It is a well-organized body and would be of invaluable service in rendering first aid to the injured.

The Richmond Academy of Medicine and Surgery.—At the last regular meeting, on Tuesday evening, the 26th inst., Dr. George K. Sims was to open a discussion on The New Operative Treatment for Piles.

The New York Post-graduate Medical School and Hospital.—Dr. Edward S. Peck has been appointed professor of diseases of the eye.

Changes of Address.—Dr. W. M. Leszynsky, to No. 56 East Fifty-eighth Street, New York; Dr. Albert B. Whitney, to No. 157 West Seventy-fifth Street, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 17 to April 23, 1898:*

BROOKE, BENJAMIN, First Lieutenant and Assistant Surgeon, is retired from active service, as a captain, upon the finding of an examining board that he is disqualified for the duties of assistant surgeon with the rank of captain, by reason of disability incident to the service, to date from April 20, 1898.

EBERT, RUDOLPH G., Captain and Assistant Surgeon, is relieved from duty at Fort Missoula, Montana, and will proceed to Tampa, Florida, and report to the commanding officer, Seventeenth Infantry, for duty.

GREENLEAF, CHARLES R., Colonel and Assistant Surgeon General, will transfer his duties pertaining to the medical supply depot at San Francisco, California, to MIDDLETON, JOHNSON V. D., Lieutenant Colonel and Deputy Surgeon General, Chief Surgeon, Department of California, who will perform them in addition to his present duties, and will also perform the duties of chief surgeon, Department of the Columbia, during the remainder of the absence on leave of WOLVERTON, WILLIAM D., Lieutenant Colonel and Deputy Surgeon General. Colonel Greenleaf will then repair to Washington and report in person to the surgeon general of the army for duty.

HARTSUFF, ALBERT, Lieutenant Colonel and Deputy Surgeon General, will proceed from headquarters, Department of the Lakes, Chicago, Illinois, to Chickamauga Park, Georgia, for temporary duty.

HOFF, JOHN VAN R., Major and Surgeon, is relieved from duty at Vancouver Barracks, Washington, and from the temporary charge of the office of the chief surgeon, Department of the Columbia. Major Hoff will then repair to Washington and report in person to the surgeon general of the army for duty.

KOERPER, EGON A., Major and Surgeon, is relieved from duty at Fort Crook, Nebraska, and will report by letter to the commanding officer, Department of the Missouri, for assignment to duty as chief surgeon of that department.

Society Meetings for the Coming Week:

MONDAY, *May 2d:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; Boston Medical Association (annual); St. Alban's, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; South Pittsburgh, Pennsylvania, Medical Society; Chicago Medical Society.

TUESDAY, *May 3d:* New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Cattaraugus (annual—Salamanca), Columbia (annual—Hudson), and Orange (annual), N. Y.; Hudson (annual—Jersey City) and Mercer (annual), N. J., County Medical Societies; Androscoggin, Maine, County Medical Association (Lewiston); Connecticut River Valley Medical Association, Vermont (Bellows Falls); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, *May 4th:* Ohio State Medical Society (first day—Columbus); Wisconsin State Medical Society (first day—Milwaukee); New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, N. Y. (Stapleton); Springfield, Massachusetts, Medical Club (private); Essex, Massachusetts, North District Medical Society (annual—Haverhill); Plymouth, Massachusetts, District Medical Society (annual); Penobscot, Maine, County Medical Society (Bangor); Bridgeport, Connecticut, Medical Association.

THURSDAY, *May 5th:* Indiana State Medical Society (first day—Lafayette); Ohio State Medical Society (second day); Wisconsin State Medical Society (second day); New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Medical Society of the County of Orleans, N. Y. (semiannual—Albion); Ocean, N. J., County Medical Society (Tom's River); Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Medical Society of City Hospital Alumni of St. Louis; Atlanta Society of Medicine.

FRIDAY, *May 6th:* Indiana State Medical Society (second day); Ohio State Medical Society (third day); Wisconsin State Medical Society (third day); Practitioners' Society of New York (private); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

SATURDAY, *May 7th:* Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

OBITUARY NOTES.

Henry McElderry, M. D., of the Army.—In the death of Major McElderry the army, the medical profession, and society have lost a man of great attainments, sterling worth, and uncommon personal graces. His whole professional life had been devoted to the army medical service, opening with his career as a medical cadet, begun before he had obtained his degree in medicine.

Cornelius N. Hoagland, M. D., of Brooklyn.—Dr. Hoagland, who died at his home, in Brooklyn, on Sunday, the 24th inst., will be particularly remembered in the medical profession by reason of his munificent action in establishing the Hoagland Laboratory and endowing it. During the latter portion of his life he was engaged in commercial pursuits, but in his early years he served with distinction in a medical capacity in the civil war.

Births, Marriages, and Deaths.

Born.

VEENSCHOTEN.—In Pella, Iowa, on Sunday, April 24th, to Dr. and Mrs. T. Veenschoten, a son.

Married.

AUSTIN—HALL.—In New York, on Tuesday, April 26th, Dr. Alonzo Eugene Austin and Miss Sara Frances Hall, daughter of Dr. Edwards Hall.

BELLAMY—TRENHOLM.—In New York, on Wednesday, April 20th, Dr. Russell Bellamy, of Wilmington, North Carolina, and Miss Constance Trenholm.

GANT—BARRET.—In Henderson, Kentucky, on Wednesday, April 20th, Dr. Samuel Goodwin Gant and Miss Susan Rankin Barret.

GOULD—SANDERS.—In New York, on Wednesday, April 20th, Mr. William Stocking Gould and Miss Ethel Blanche Sanders, daughter of Dr. Charles Walton Sanders.

LEYENDECKER—HEIDE.—In New York, on Tuesday, April 26th, Dr. Philip Theodore Leyendecker and Miss Johanna Heide.

DE SAUSSURE—WHITAKER.—In Camden, South Carolina, on Tuesday, April 12th, Dr. Henry W. De Saussure, of Charleston, South Carolina, and Miss Margarette McRae Whitaker.

TUCK—DININNY.—In New York, on Tuesday, April 26th, Mr. Henry Webster Tuck, son of Dr. Henry Tuck, and Miss Olga Marie Dininny.

WILLIS—BAKER.—In Washington, on Thursday, April 21st, Mr. Bailey Willis and Miss Margaret Delight Baker, daughter of Dr. Frank Baker.

Died.

HOAGLAND.—In Brooklyn, on Sunday, April 24th, Dr. Cornelius Nevius Hoagland, in the seventieth year of his age.

MCELDERRY.—In Hot Springs, Arkansas, on Sunday, April 17th, Surgeon Henry McElderry, of the army, aged fifty-six years.

Letters to the Editor.

THE NON-CONTAGIOUSNESS OF YELLOW FEVER.

BROOKLYN, *March 18, 1898.*

To the Editor of the New York Medical Journal:

SIR: On reading Dr. Staples's article on Sydenham and Rush, in the *New York Medical Journal* of March 5th, I wrote to him inquiring the source of his statement that "the definition of yellow fever now accepted is 'an acute, specific, infectious, contagious, paroxysmal, malignant fever.' My exception is to the word contagious. I have had a good deal of personal contact with yellow fever and the regions and particular localities where it has been always, and is still, wont to prevail, and considerable acquaintance with physicians of practical observation and experience in dealing with it; and, moreover, I have for more than fifty years given attention to publications on it during this period, while I have very carefully read the history of it in older publications. According to my observations, actual experience, reading and study, the consensus of opinion appears to me to be clearly defined, that it is believed to be personally contagious by those only who have had but little or no practical experience in dealing with it. Considering that your statement (*New York Medical Journal*) will be extensively read, it would afford me additional satisfaction in your reply to this request, if you will kindly grant it, to permit me to publish it."

His reply is as follows:

"WINONA, MINN., *March 8, 1898.*

"DEAR DR. BELL: I am glad to have your kind note of the 5th inst., in which you noticed a point in my paper, recently published in the *New York Medical Journal,* relating to the matter of contagiousness of yellow fever. You object to the word contagious in the definition of yellow fever quoted by me, and ask for the source of the statement which is quoted. The definition quoted is found in Gould's *Dictionary of Medicine,* page 469. The complete definition reads as follows: 'Fever, Yellow, an acute, specific, infectious, contagious, paroxysmal, malignant fever, occurring mainly in subtropical regions, and characterized by three stages, the febrile, the remission, and the collapse.'

"With the present understanding concerning the bacteriology of the disease, it would appear that the term 'infectious,' at least, is applicable; and that the matter of excluding the word 'contagious' depends somewhat upon the extent to which these terms are made to be synonymous.

"I am well aware of your knowledge of the disease, which has been gained by much study and observation in different epidemics of the past, and that my information is wholly from what has appeared in the reports of others.

"If in your opinion it is worth while, it would certainly be agreeable to me for you to publish your views in reply to this item in my paper, either in the *Sanitarian* or in the *New York Medical Journal*, as you choose. I appreciate your kind courtesy in writing to me in the matter.

"Sincerely and very truly yours,
"FRANKLIN STAPLES."

My observations and citations in this regard have been so extensively published (*Transactions of the American Medical Association; Medical Society of the State of New York; American Public Health Association, The Sanitarian*, and other publications), except for the coincidence of Dr. Staples's statement with the recently published assertion of Dr. H. H. Haraldson, member of the State board of health of Mississippi, that extreme contagiousness of yellow fever is a distinguishing feature of yellow fever from dengue, and its close relation to the cruel and mischievous shotgun quarantines due to such erroneous statements—but for these relations I should not have raised the question.

Dr. Frederick Loeber, the physician in charge of Touro Infirmary, New Orleans, during the recent epidemic of yellow fever there, reported at the conclusion of his service in December that a hundred and five cases had been treated, of whom ten died. There were four students and fifteen nurses engaged in tending the yellow-fever patients in the infirmary; that not one of the nineteen was immune, and yet that not one of them caught the disease. He says still further that of one hundred or so of other patients than yellow-fever sufferers and attendants, there was not one who became infected. Dr. Loeber was asked to state (*New Orleans Times-Democrat*), for the benefit of the public, what disinfecting or prophylactic treatment he had subjected the non-immune students and nurses to, that they could have avoided infection. He replied that cleanliness was the sole and only specific, the necessity of which he had pressed on them. They were not allowed to touch the clothes in which the patients had reached the infirmary; these were burned and were replaced by hospital suits. They were not allowed to leave the premises, eating, drinking, sleeping, and bathing there all the time; and this was the only regimen to which they had been subjected. So far, in fact, as the contagiousness of the disease is concerned, Dr. Loeber avers that a non-immune person might sleep in the very next cot to a yellow-fever patient, and be free from any danger of attack.

This experience of Dr. Loeber accords with my own on several occasions, from which the following are examples: I was for the first time brought in contact with yellow fever when I was an assistant surgeon in the navy, during the Mexican War, and at the outset, for several weeks consecutively (July–August, 1897), occupying the same room, about twenty feet square, with from four to eight patients affected with the disease, on beds so close as to be in reach of one another on either side. This was in a hospital built of unplaned pine boards on Salmadina Island, near Vera Cruz. An adjoining room communicating by an open doorway (but no door) and the only additional ward of the same hospital was occupied during the same time by from twenty to forty cases of the same disease. My health was excellent the while, as was also the health of the nurses and other attendants who had not been exposed to the infected ships whence these patients came, not one of whom contracted the disease in that hospital.

Per contra, of its infectiousness: I was transferred from the hospital to an infected ship—the steamship Mississippi. On the third day thereafter I was taken with the fever.

During the prevalence of yellow fever in Bay Ridge and in Fort Hamilton, in 1856, Dr. Joseph Bailey, U. S. Army, surgeon of the fort, contracted yellow fever and became my patient; he was extremely ill. Fearing a fatal result amid the infected surroundings, I had him transferred to the nursing care of his wife, who at the time was nursing a babe two months old, at the house of his brother, in Fourteenth Street, New York. I had made Dr. Bailey's acquaintance during the Mexican War at Vera Cruz, where he escaped the disease. He thoroughly shared my convictions of its non-contagiousness and willingly acquiesced in being placed under the nursing care of his wife. I attended him in Fourteenth Street until his recovery; meanwhile, the move was kept secret, and his condition reported from day to day in the Fort Hamilton bulletin. In 1862, while I had charge of the floating hospital in the lower bay of New York for the special care of yellow-fever patients, among them was Lieutenant John Van Ness Philip, with black vomit. At the time he was received his case was announced in the newspapers. The next day after he was received his wife visited the health officer of the port (Dr. Gun) at Tompkinsville and implored him to allow her to visit her husband. He denied her. The circumstance was reported to me two hours afterward by the deputy health officer, Dr. Waltzer, from whom I learned also that Mrs. Philip had gone to the Mansion House, Brooklyn. The patient was *in extremis*, though he still retained his senses, and had asked me to send for his wife. I did so—by boat to Fort Hamilton and a quick carriage to Brooklyn. She got aboard about ten o'clock that night, in the midst of a rain storm. Half an hour afterward she was at her husband's bedside, where, on her insistence, she remained all night, most of the time holding his hand, and twice, in advance of the nurse, held the basin to catch the ejected black vomit. She kept her post for most of the following day, when he died late in the afternoon. She accompanied me with the body to witness the burial and mark the grave. She returned with me to the hospital ship and remained as a guest for several days, until she regained composure and returned to her home.

I may here remark that this act of mine was not in contravention of the otherwise iron-clad order of the health officer. It was our understanding when I consented to take charge of the hospital ship—in the just expectation that we should have a good deal to do with yellow fever under the then existing conditions of war and commerce—that I should be left free to exercise my own judgment in that particular service. The health officer was astonished but not offended.

The hospital was but rarely without cases of yellow fever during the summer, yet I had members of my family, including little children, to visit me several times and to stay all night, for an airing; and my eldest son was my clerk, *locum tenens* for the season.

The nurses, cooks, laundry women—all were chosen with reference to their competency for the duty required of them. None of them had ever had yellow fever or ever before been brought in contact with it. Not one contracted it.

These examples are selected as illustrative. It would be an easy matter for me to multiply them, for my personal experience in dealing with the disease and observing its conditions extends to the Central American coast, the West Indies, and the west coast of Africa.

"Concerning the bacteriology of the disease," referred to by Dr. Staples, as any evidence of its contagiousness, it is not, I am quite sure, so regarded by Dr. Sternberg or, so far as I have been able to learn, by any bacteriologist who is also familiar with the disease by actual observation. A. N. BELL, M. D.

THE SOURCE OF INFECTION IN LEPROSY.

NEW YORK, *April 24, 1898.*

To the Editor of the New York Medical Journal:

SIR: I have read with much interest your editorial on Leprosy and the Nose in yesterday's issue of the *Journal,* in which reference is made to the investigation of leprous lesions of the nose by Dr. G. Sticker and of leprosy of the nose, throat, and larynx by Jeanselme and Laurens, the results of which were presented to the recent Berlin Leprosy Congress.

These communications, based upon bacteriological studies, have excited a great deal of interest among leprologists. They must be regarded as among the most noteworthy and valuable contributions recently made to our knowledge of leprosy, as they tend to throw light upon an obscure chapter in the ætiology of the disease. Notwithstanding the identification of Hansen's bacillus as the active pathogenic agent in the causation of leprosy, it must be confessed that our knowledge of the modes of infection and the channels through which the bacilli gain entrance to the system is by no means definite.

Of the one hundred and fifty-three cases studied bacteriologically by Sticker, evidences of leprous changes in the nasal mucous membrane were found in all but thirteen. As these changes often preceded by several years the first cutaneous nodules or the first nervous symptoms, Sticker maintains that they constitute the initial lesion of leprosy. Jeanselme and Laurens found leprous lesions of the nasal fossa, the mouth, throat, and larynx in sixty per cent. of the cases examined by them. As a result of their studies, they conclude that chronic coryza is often the first exterior manifestation of leprosy, and that the nasal mucus of lepers is of great virulence and constitutes one of the most efficient sources of the propagation of leprosy. The results of these investigations were first presented before the Société médicale des hôpitaux de Paris, July 23, 1897.

As I arrived at practically the same conclusions several years before from my clinical studies of the disease, I am gratified to have my views confirmed by bacteriological proof. As evidence of priority I may be pardoned for quoting in this connection from my article on Leprosy (Morrow's *System,* vol. iii, Dermatology, 1894, p. 572): "Contrary to what is usually taught, I believe that the first manifestations of leprosy are, in the majority of cases, determined toward the mucous membranes of the pharynx and upper air-passages. According to my observation, alteration of the voice, betrayed by a slight husky or rough phonation, rhinitis with an abnormally free nasal secretion, sometimes epistaxis, and an increase in the salivary secretion are among the earliest signs of leprosy. At a more advanced stage, when there are leprous deposits in the mucous surface, with involvement of the cartilages and the bones, the characteristic harsh raucous voice, and the difficult sniffling respiration, from obstruction of the nostrils, are almost invariable concomitants. A patient in the early stage of anæsthetic leprosy under my observation can not go from a warm room into the cold air without liability to a copious nasal secretion compelling her to use her handkerchief almost continually." In considering modes of infection, I wrote (page 595): "The bacillus of leprosy may be introduced through more than one channel of entrance. Direct inoculation through the skin in any of the manifold ways which have been considered plays, in my opinion, a very unimportant *rôle* in the propagation of leprosy. In the vast majority of cases I believe that the vehicles of the virus through which contagion is affected are the secretions of the mouth and the nose, and that the port of entrance is the mucous membrane of the respiratory and intestinal tract, with secondary infection through the blood or lymphatic system." Again, in discussing prophylactic measures, I stated (page 605): "In view of the fact that contamination probably takes place from the buccal or nasal secretions, these should be disinfected or destroyed with the same scrupulous care as would be indicated in a case of tuberculosis."

So far as I am aware, I was the first observer to insist upon the precocity of mucous-membrane manifestations and to maintain that the buccal and nasal secretions constituted the chief source of infection in leprosy.

PRINCE A. MORROW, M. D.

"THE DIAGNOSIS OF GONORRHŒA."

242 WEST FORTY-THIRD STREET,
NEW YORK, *March 26, 1898.*

To the Editor of the New York Medical Journal:

SIR: In your to-day's issue appears an excerpt from the *Lancet,* with this heading, which is certainly full of surprises to a reader who strives to keep abreast of modern science.

The first of these is that medical men could be obtained who would consent or could be coerced to testify that their patients had gonorrhœa. It certainly is unlikely that this testimony was given with the plaintiff's and defendant's approval. Perhaps the ethics governing the profession in England differ from ours, but it certainly seems to me that a physician would rather suffer punishment for contempt of court than ever reveal his patient's ailment.

The second surprise is that in a land that has given the profession so many scientists there be one practitioner guilty of such a statement as: "He had no doubt that it was gonorrhœa, though he did not use a microscope." It is doubtless in an attempt to exculpate his gross negligence—and even this sounds euphemistic—when he adds that "the existence of a microbe had not been distinctly proved, and experts were divided in opinion regarding it." Beginning with Neisser, what a long list of names alone would require citing to show that not the slightest divergence of opinion prevails regarding the gonococcus as the microbe of gonorrhœa!

This witness brought out his view that the treatment for non-gonorrhœal urethritis is the same as that applicable in gonorrhœa. If this were true, it would simplify the treatment of all urethritis to routinism. But the fact is that if a non-gonorrhœal urethritis, as even beginners in the specialty know, is treated like gonorrhœa, the case is prolonged, perhaps indefinitely, and is rife with the consequences which should never supervene.

The second witness in this unfortunate case, like his predecessor, seems, from the *Lancet's* report, to have burdened himself with a microscope as little as with the sanctity of professional confidence. He caps his testimony with a statement which might mislead people into believing that the amount of inflammation and quantity of discharge were sufficient data for diagnosis. He, let it be charitably assumed, did not know that a very slight watery excess of moisture, without perceptible inflammation of the meatus, may contain enough gonococci to infect an army; while a thick, yellowish-green, copious flow, attended with heavy swelling at the meatus and great pain on urination, may be free from the characteristic microbes of gonorrhœa. The varieties of urethral discharge which may obtain in people who are perfectly chaste would seem a closed book in England, unless one is familiar with its literature or has had the high privilege, like myself, of seeing the splendid work of Fenwick, Harrison, Freyre, and others at St. Peter's, the London Hospital, and elsewhere.

The testimony of Dr. Dingle and of Mr. de Méric takes from the English profession the obloquy under which it might rest and is the really valuable part of the report. In Mr. de Méric's statement that the discovery of the *bacillus* of gonorrhœa is necessary for diagnosis, the word *bacillus* is doubtless a misprint for *diplococcus.*

The possible recrudescence of an old, residual gonorrhœa in the respondent does not appear in the report. I have endeavored to show in two papers * on the subject that a man may have deemed himself cured twenty or more years previous to marriage and, before the honeymoon has waned, infect his wife. One of the means by which this may occur, stripped of complications, is as follows:

Being married to a woman he knows to be virtuous, he has no fear of infection from her, and for the same reason no dread of impregnating his partner in the sexual act. Consequently, he does not hesitate to continue intromission until all vestige of erection has subsided. The so completed act, the secretion of the crypts, glands, and follicles of the urethra, possibly harboring residual or "latent" gonococci, may empty some of them into the vagina where, finding fresh soil, they proliferate. The husband's urethra having become hardened, practically immune to gonococci, may be uninfected. Thus the innocent wife may alone be the sufferer physically and mentally, too, from the suspicion that may attach to having an acute gonorrhœa. The husband may be infected from her, or may not, according to whether his urethra offers a culture medium for the gonococci she generates.

A husband with residual gonorrhœa, which gave no evidence for many years, may, by the sexual excesses most recently married people commit, produce in himself a *urethritis ex libidine*, or, by the feasting which often accompanies the early married state, a *urethritis ab ingestis.* The local inflammation may again render the urethra a good culture medium for the gonococci that have lain quiescent in his urethral annexa and set up a fresh gonorrhœa without infecting the wife. Indeed, the frequency of precisely this situation leads to the conclusion that many women must be immune.

In case the wife alone develops gonorrhœa, and the husband shows a normal meatus, passes perfectly clear urine without discomfort, it by no means proves her guilt. In such a case, no conclusion can be reached before searching examination by the beer test, the nitrate-of-silver test, *ramonage* as proposed by Professor Guyon, urethroscopy, expression of the prostate, and stripping the seminal vesicles proves beyond doubt that the husband is free from gonorrhœa.

It is only with a view to again urge upon even those colleagues who do not make a specialty of genito-urinary diseases the need of exceeding carefulness in the questions concerning gonorrhœa that these suggestions are written. No attempt is made at a complete statement, as that would consume more space than you could allow.

FERD. C. VALENTINE, M. D.

A SEVERE CASE OF BELLADONNA POISONING: RECOVERY.

1996 BATHGATE AVENUE, NEW YORK, *April 8, 1898.*

To the Editor of the New York Medical Journal:

SIR: I beg leave to report the following rather unusual case:

About two o'clock one Sunday afternoon I was in a drug store when the clerk ran in and said that about twenty minutes before he had taken a drachm of the fluid extract of belladonna root in a mistake for some other mixture. He had eaten a very hearty meal just before he happened to make the mistake. His face was very flushed and the pupils were greatly dilated.

I at once gave him twenty grains of the sulphate of zinc, with no effect. I followed this with a huge drink of mustard and water; great quantities of food were then vomited. I then gave him some wine of ipecac, causing more vomiting. He drank large quantities of water, but still complained greatly of thirst and a dryness in his throat. I gave him a large dose of castor oil. He was now talking wildly and had some very fanciful ideas. He wanted to lie down and sleep, but I dragged him around the block, keeping him awake, although he could hardly walk and would insist on lying down in the street. He did fall once despite what I could do. He breathed very heavily. The pupils were greatly enlarged and the eyes shining. I kept this exercise up until five o'clock, when we went into the store. His bowels moved copiously about this time. At half past five I took him home. On the way there he talked quite rationally. I gave him brandy and kept him up until eight o'clock, when I allowed him to go to bed. His chest, neck, and face were of a rosy-red color. I did not see him until the next morning, when he was entirely well. He carried this belladonna in a small phial which held, on measurement, over eighty-five minims. He said that this was full of the fluid extract of belladonna radix (Parke, Davis, & Co.). I find that he must have taken at least seventy-five minims of this extract, the dose of which is from one to two minims, and is known to be one of the most efficient preparations of belladonna.

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* When may Gonorrhœal Patients Marry? *American Medico-Surgical Bulletin*, October 1, 1895; and The Protection of the Innocent from Gonorrhœa. *The Medical Fortnightly*, October 15, 1896.

I think it is unusual that so large a dose of so powerful a drug should not have caused the death of the patient. WOODRUFF L. POST, M. D.

THE AMERICAN MEDICAL ASSOCIATION: THE SPECIAL TRAIN TO DENVER.

517 PINE STREET, PHILADELPHIA, *March 23, 1898.*

To the Editor of the New York Medical Journal:

SIR: A very large number of medical men have already secured superior accommodation by the Pennsylvania Railroad special to the next meeting at Denver, June 7th to 10th. I have just been informed that several men have clubbed together and intend to connect with our train. Under these conditions it is unnecessary for me to add that we shall then be the recipients of superior accommodation at much cheaper terms. As money will be the vital factor, permit me to offer my services to give all information and details regarding the same. We are endeavoring to secure some good men in your city who will voluntarily give the same details. We confidently hope to obtain half fare for the round trip, and besides are promised the fastest time to the West possible. All comforts, including buffet sleeping cars and drawing room car, will certainly be part of the itinerary. Thanking you for the opportunity of aiding those colleagues who may wish to avail themselves of reduced rates and comforts, EDWIN ROSENTHAL, M. D.

Proceedings of Societies.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of February 2, 1898.

The President, Dr. ROBERT J. CARLISLE, in the Chair.

(*Concluded from page 545.*)

Gonecystitis.—Dr. WINFIELD AYRES read a paper on this subject. (To be published.)

Dr. LOUIS A. DI ZEREGA asked for a more minute description of the method of stripping the vesicles.

Dr. AYRES replied that the patient stoops over a chair and flexes his legs. The examining finger is then passed well upward in the rectum, first on one side and then on the other. A person with a long finger can readily reach the parts. The finger in the rectum is aided by the outer hand pressing down over the pubis. But little pressure is used in the stripping.

Dr. ERDMANN said he felt confident that three cases in the last few months had been markedly benefited by this treatment, although he had not been able to reach the tip of the vesicles. In each instance he had succeeded in obtaining some of the peculiar exudate spoken of. One specimen had come from a man whose vesicles had been stripped at intervals of three days for about two months. He had come to him with a "morning drop." The endoscope had revealed no lesion in the urethra, but on stripping the vesicles he had obtained some of this exudate. The man had made a speedy recovery from the morning drop. In another case of persistent morning drop, which had lasted for over three years, he had first dilated up to No. 32, and then stripped the vesicles. Recovery had been rapid. With the bladder distended so as to facilitate counter pressure the vesicles could be easily manipulated in thin subjects.

Dr. C. E. QUIMBY said that a few years ago he had had a patient who had been distinctly gouty and of a decidedly nervous temperament. There had been no morning drop, and he had not been able to detect a stricture, but there had been more or less irritation in the deep urethra and frequent urination at night. A leading specialist in this city had stripped his seminal vesicles, and had displayed a milky fluid, and had thereupon made a diagnosis of chronic seminal vesiculitis. For several months he had continued the strippings with this specialist without any relief, and had then been compelled to go abroad on business. While in Europe he had gone to Carlsbad and taken a thorough course of treatment there. On his return to this city his vesiculitis had apparently disappeared and there had been little local irritation. The speaker said that he had all along looked upon the condition as largely due to the gouty diathesis and the nervous temperament. He raised the question of the possibility of this so-called inflammatory exudate being frequently a physiological exudate, due to an excess of nutrition produced by simple congestion. He thought some of these subacute cases might be found to depend upon other sources of irritation than gonorrhœa, stricture, syphilis, or tuberculosis.

Dr. AYRES, in closing the discussion, admitted that he believed a good many cases in which the milky fluid could be obtained by stripping were not cases of vesiculitis. He had had such a case only yesterday. Neither vesicle had been much enlarged, yet, as an experiment, he had stripped them and had obtained this fluid in considerable quantity. A vesicle the seat of chronic inflammation was nearly as large as the index finger. He had never been able to draw the exact line between a congested and an inflamed vesicle from the appearance of the products of stripping. If on a second stripping very little of the fluid were obtained he thought vesiculitis could be excluded. Considerable experience was necessary to determine whether the vesicle was inflamed or simply enlarged. A great many cases of painful and frequent micturition were due to oxaluria and lithuria, and in these a little of the fluid would be obtained only on the first stripping. He did not advocate stripping cases of oxaluria and lithuria, but if the vesicle were considerably enlarged, and from it a considerable quantity of inflammatory exudate could be stripped, it was safe to say that it was the seat of inflammation.

Book Notices.

Text-book of Physiology. Edited by E. A. SCHÄFER, LL. D., F. R. S., Jodrell Professor of Physiology, University College, London. Volume First. Edinburgh and London: Young J. Pentland. New York: The Macmillan Company, 1898. Pp. xviii–1036. [Price, $8.]

THIS book, which is the joint work of a number of physiologists, is not a "text-book" in the ordinary sense of the word, but is what the Germans call a *Handbuch*—*i. e.*, a work intended for advanced students and investigators. The need of just such a work as this one, in which the treatment is advanced and each subject considered by a specialist in that subject, and one containing full references to the literature, has long been felt. Not only has no such work appeared in English in recent years, but none in French or German since Hermann's famous *Handbuch* came out, nearly twenty years ago.

It is proposed to limit the scope of the work to the purely conventional physiology to the exclusion of such topics as the cell and cellular physiology. Even chapters on generation and reproduction are excluded on the ground that these subjects are studied by morphological rather than physiological methods. On the other hand, when outside matter is needed to explain some subject, it is freely introduced; thus there is an entire chapter devoted to an account of the processes of diffusion, osmosis, and filtration preparatory to the chapter on the lymph and lymph formation.

It is impossible to go into details regarding the contents of this volume. To quote the words of the preface, it "deals mainly with the chemical constitution and the chemical processes of the animal body and with those physical and chemical phenomena which are connected with the production and elaboration of the secretions and other fluids of the body." There is first a chapter on physiological chemistry, followed by chapters on the blood, lymph, urine, and milk; on digestion; on the secretion of saliva and other digestive juices; on the chemistry of respiration; on animal heat and metabolism, and finally one by Schäfer on the ductless glands and internal secretions. These articles are not mere compilations, but, being written for the most part by men well known as investigators in the subjects upon which they have written, have been prepared with critical ability and contain many original observations.

The following well-known English physiologists have contributed to this volume: Halliburton, Schäfer, Gamgee, Reid, Starling, Moore, Langley, Edkins, Paton, Hopkins, and Pembrey. For so many contributors, the treatment of the various subjects is remarkably uniform; the reader does not feel that one author has unduly emphasized his subject or has treated it in a manner entirely different from that of another author—something which is often observed in works of joint authorship.

A few typographical errors of minor importance are observed—such, for example, as the confounding of the names Meltzer and Melzer in the index. In one place the work of Abel and Davis is referred to, and in another part the paper is attributed to Abel and *Davies*. Considering, however, the large number of authors and papers quoted, such errors seem to be comparatively rare.

The second volume will be awaited with much interest. If it is as good as the first volume, physiologists may be congratulated upon having a thoroughly good and comprehensive work on their subject.

A Text-book on Surgery. General, Operative, and Mechanical. By John A. Wyeth, M. D., Professor of Surgery in and President of the Faculty of the New York Polyclinic Medical School and Hospital, etc. Third Edition, revised and enlarged. New York: D. Appleton and Company, 1898. Pp. x–997.

The third edition of this justly popular work has been practically rewritten. In its present shape it may be called an up-to-date book. At a time when elaboration is so popular, when general subjects are treated of in systems of many volumes each, it is refreshing to find an author bold enough to condense into one moderate-sized book all that he believes necessary to say upon surgery. To be written by one man lends to a book an individuality and harmony that are impossible in systems written by various authors, and at the same time it prevents much overlapping and necessary repetition. Of course a treatise upon any subject in surgery, with all its history, bibliography, etc., can not be embraced in one or two brief chapters, but the known and practical points of almost all surgical diseases may. It is the application of this fact that has rendered Wyeth's *Surgery* so popular with the general practitioner. The author recognizes all the scientific advances in surgery and gives them in brief outline wherever they are of practical value, but he does not waste space on abstruse theories and descriptions of obsolete procedures. The opening chapters upon surgical pathology will not take the place of a book like that of Hamilton or Warren for the student, but they give what is necessary for the busy practitioner to know upon the modern theories of surgical diseases, and the average man will learn more from these epitomes than from large and much elaborated works upon the same subjects. The same may be said in a degree of the chapters on urethritis and syphilis, but in fairness it should be said that the author has gone too far in the condensation of these two subjects. His book would be stronger had he omitted the one on syphilis altogether. The chapters on the surgery of the arteries, veins, and lymphatics are models in their line. The descriptive text is concise and clear; the illustrations are works of art, creditable to both the author and the book-maker. With these before him a layman would almost be able to ligate the arteries.

No doubt many will take issue with the author in his chapter on hernias. He leaves out descriptions of Bassini's and Halsted's operations, and confines himself to a sort of combination of Bassini's and Macewen's operations, which he describes as his own and says he has found most satisfactory. He states in his preface that he has endeavored to make this a text-book for colleges. With this end in view we question the wisdom of omitting such well-known procedures, even though he gives a better one. Students use text-books to prepare for examinations *principally*, and the books should contain those things upon which questions may be asked by any board or professor.

The chapters on regional and special surgery, together with that on plastic operations, are well worth reading, and will furnish many useful suggestions to the experienced surgeon even. The illustrations are numerous and well executed. Indeed, the work as a whole is a model of book-making. We congratulate the author upon having finished his arduous task so successfully, and predict for him and his publishers a rich reward for their labors.

A Compend of the Diseases of the Eye and Refraction. By George M. Gould, A. M., M. D., and Walter L. Pyle, A. M., M. D. Philadelphia: P. Blakiston, Son, & Co., 1897.

This is one of the best of the modern medical compends, and its style is admirably easy, condensed, and practical. The volume describes concisely the most important subjects in ophthalmology, and gives special attention to the principles and practice of refraction, muscular anomalies, the diagnosis of common ocular diseases, and local therapeutics. It contains also a glossary of terms and an index. The type is small and the paper thin, both fit subjects of criticism from the ophthalmological standpoint, but in a book of this size scarcely to be avoided.

Therapeutics of Infancy and Childhood. By A. Jacobi, M. D., Clinical Professor of the Diseases of Children in the College of Physicians and Surgeons (Columbia University), New York, etc. Second Edition. Philadelphia: J. B. Lippincott Company, 1898. Pp. xvi–9 to 629. [Price, $3.]

The rapidity with which pædiatric science has advanced in recent years, taken in connection with the fact that a number of years were consumed in the preparation of the first edition of this work, is no doubt responsible for what some have thought a lack of modernness in the first edition. We were not of this opinion, however, so far as matters of much moment were concerned, and we rated high its conservatism as contrasted with those pædiatric novelties with which many writers so greatly concern themselves. That some rejuvenation was not unwise, nevertheless, is shown by the volume before us. A thorough revision of the work has produced one which is in every way admirable and one that can certainly not be open to the reproach of failure to treat its subject in harmony with all recent progress. The qualities which we found so praiseworthy in the first edition characterize this one as well, and we feel sure that many will find it exceedingly valuable.

Fat and Blood: An Essay on the Treatment of Certain Forms of Neurasthenia and Hysteria. By S. Weir Mitchell, M. D., LL. D. Harv., Member of the National Academy of Sciences, etc. Seventh Edition. Philadelphia: J. B. Lippincott Company, 1898. Pp. 9 to 177. [Price, $1.50.]

No critical comment is required upon the appearance in a seventh edition of a book so well known as this. In some few details the work has been amplified and the chapter upon massage has been rewritten, but apart from this the book is the same that for so long a time has been read and appreciated widely.

The Diseases and Injuries of the Conjunctiva, especially the So-called Granulated Lids. By John H. Thompson, M. D., Professor of Ophthalmology and Otology, Kansas City Medical College, Kansas City. First Edition. With Illustrations. Kansas City: Hudson-Kimberly Publishing Company, 1897. Pp. 6 to 216.

This small volume, with a few illustrations, treats of the diseases most commonly met with by the practitioner. Much the larger part of the book is devoted to the subject of trachoma. The author's views are those of the Vienna school of ophthalmology, which from a purely clinical standpoint are still found to be the most useful in practice. The teachings of Arlt and his pupils antedated those of the modern bacteriological period, and the ideas as to the ætiology and pathology of follicular conjunctivitis, trachoma, and indeed most conjunctival diseases have been materially modified of late years. As regards the treatment of these diseases, the author's views are practical and correct. There are brief chapters on diphtheritic conjunctivitis, tuberculosis, syphilis and tumors of the conjunctiva, and wounds and injuries, and there is a fairly good index. The style is easy and the book will repay perusal.

Die Krankheiten des Magens. Ein Lehrbuch für Aerzte und Studirende. Von Dr. Max Einhorn, Docent an der New York Post-graduate Medical School, etc. Mit 52 Abbildungen im Text. Berlin: S. Karger, 1898. Pp. xvi–344.

As but eighteen months have elapsed since the first appearance of Dr. Einhorn's American work on the *Diseases of the Stomach,* it is hardly to be supposed that in this recent German edition we shall be confronted with many startling innovations. During this period observers working in the domain of gastric disorders have been chiefly occupied in proving facts and theories previously described and in placing the methods of clinical diagnosis upon a more lasting and scientific basis. It has not been a time of great discoveries or of radical changes. Nevertheless, we notice the book is well up to date and contains a considerable amount of new matter of importance. The sections describing the chemical examination of gastric contents are hardly written in sufficient detail to be of practical service to the average student, the description of Töpfer's method of estimating combined hydrochloric acid being especially vague. We notice, moreover, that *alizarin* is mentioned as the indicator of this test, instead of *alizarinmonosulphonate of sodium.* The author still holds his well-known views as to the clinical value of gastrodiaphany, but makes no mention of the manifold sources of error in the conclusions derived from this method of examination that have caused its abandonment by such keen clinicians as Boas. Aside from these details, however, the book is in thorough keeping with the high standard of the author, and may safely be recommended as one of the best text-books extant upon this interesting subject.

The International Medical Annual and Practitioner's Index. A Work of Reference for Medical Practitioners. Sixteenth Year. New York and Chicago: E. B. Treat & Co., 1898. Pp. x–740. [Price, $3.]

This annual has always occupied a high place in our esteem, and this from no theoretical valuation, but from one which is most practical—namely, frequent use. Consulting this work, as we very often have done in the past, we have been surprised to learn how wide was its scope and how exhaustive were its contents. Indeed, so seldom have we sought information from it in vain that we have come to place a very great reliance upon it. Our observations would lead us to believe that many readers are of our opinion, but to those who have yet to make the acquaintance of this work we are glad to be able to recommend it very thoroughly. The issue for the year 1898 departs in no important respect from that of last year, and a critical review of it is neither possible nor necessary; suffice it to say that the volume before us is reflective of all recent progress in the medical sciences and so arranged and systematized as to make its contents easy of access.

The Yearbook of Treatment for 1898. A Critical Review for Practitioners of Medicine and Surgery. By Various Contributors. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. viii–484.

THE fourteenth annual volume of this well-known publication well supports the favorable repute in which the work has always been held by the medical profession. Like its predecessors, it is an exhaustive *résumé* of recent therapeutic literature and will surely be a valuable aid and guide in the application of remedies to disease.

BOOKS, ETC., RECEIVED.

Annual and Analytical Cyclopædia of Practical Medicine. By Charles E. de M. Sajous, M. D., and One Hundred Associate Editors, assisted by Corresponding Editors, Collaborators, and Correspondents. Illustrated with Chromo-lithographs, Engravings, and Maps. Volume I. Abdominal Injuries to Bright's Disease. Pp. x–601. Philadelphia: The F. A. Davis Company, 1898.

Daydreams of a Doctor. By C. Barlow, M. D. Buffalo: The Peter Paul Book Company, 1898. Pp. 251.

Annuaire des eaux minérales. Stations climatiques et sanatoria de la France et de l'étranger. Suivi d'une nomenclature des établissements hydrothérapiques publié par la *Gazette des eaux*. Quarantième année, 1898. Paris: Librairie Maloine et Bureau de la *Gazette des eaux*. Pp. 5 to 294.

Report of the Health Department of the City and County of San Francisco for the Fiscal Year ending June 30, 1897.

Roosevelt Hospital, New York. Twenty-sixth Annual Report. From January 1, 1897, to December 31, 1897.

Ninth Annual Report of the Babies' Hospital of the City of New York. For the Twelve Months ending October 1, 1897.

The Twenty-fifth Regular Report of the Medical and Surgical Staff of St. Francis's Hospital, Jersey City. For the Year 1897.

Proceedings of the Pathological Society of Philadelphia. Volume I, No. 5.

Hearing before the Committee on Interstate and Foreign Commerce of the House of Representatives on Bills (H. R. 4363 and S. 2680) to Amend an Act entitled "An Act Granting Additional Quarantine Powers and Imposing Additional Duties upon the Marine-Hospital Service."

A Description of Hospital Buildings on the Pavilion Plan. By Albert Vander Veer, M. D., of Albany. [Reprinted from the *Albany Medical Annals.*]

Diagnosis in Abdominal Disorders. By Joseph Eastman, M. D., of Indianapolis, Indiana. Read at the Western Surgical and Gynæcological Association.

The Question of Pelvic Support. By Joseph Eastman, M. D. [Reprinted from the *American Gynæcological and Obstetrical Journal.*]

The Serum Diagnosis of Yellow Fever. By P. E. Archinard, M. D., R. S. Woodson, M. D., and John J. Archinard, M. D., of New Orleans. [Reprinted from the *New Orleans Medical and Surgical Journal.*]

Sex in Generation. By Daniel E. Keefe, M. D., of Springfield, Massachusetts. [Reprinted from the *New England Medical Monthly.*]

The Great Omentum. With more Especial Reference to the Part played by it in Inflammations of the Abdominal Viscera. By J. G. Adami, M. D., of Montreal. [Reprinted from the *Philadelphia Medical Journal.*]

The Treatment of Puerperal Infection—Preventive and Curative. By F. A. L. Lockhart, M. B., of Montreal. [Reprinted from the *Montreal Medical Journal.*]

Ueber die Wirkung des Chinins auf die Leucocyten. Von C. Binz in Bonn. [Extrait des *Archives internationales de pharmacodynamie.*]

Ueber die Einwirkung einiger Abkömmlinge des Morphins auf die Atmung. Von H. Stursberg. [Extrait des *Archives internationales de pharmacodynamie.*]

Ueber Entgiftung durch oxydirende Agentien. Von Dr. Karl Walko. [Extrait des *Archives internationales de pharmacodynamie.*]

Ueber den Bauchschnitt durch eine Rectusscheide mit Verschiebung des medialen oder lateralen Randes des Musculus rectus. Von Professor Dr. K. G. Lennander. [Sonderabdruck aus dem *Centralblatt für Chirurgie.*]

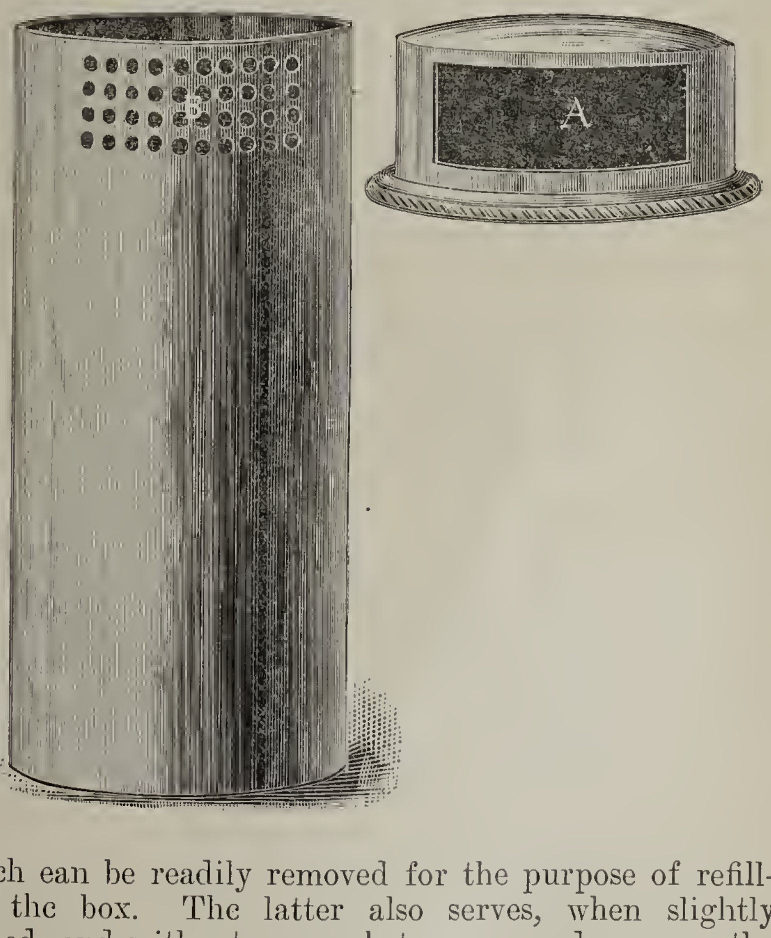
Clinical History of a Series of Operative Procedures for the Cure of Cicatricial Ectropium from Antral Disease. By Charles A. Oliver, M. D. [Reprinted from the *University Medical Magazine.*]

New Inventions, etc.

A CONVENIENT IODOFORM DREDGER.

By G. R. FOWLER, M. D.

THE dusting box or dredger herewith shown was made for me by F. Haslam & Co. It consists of two parts—viz., the box itself, with a group of perforations upon the side near the upper end from which the antiseptic powder is sifted or shaken when in use, and a lid which can be readily removed for the purpose of refilling the box. The latter also serves, when slightly turned, and without removal, to cover and uncover the dredging perforations. The whole is exceedingly light, convenient, and efficient.



Miscellany.

Herbert Spencer and Vegetarianism.—It having been reported, says *Food and Sanitation,* that Herbert Spencer was a vegetarian, he was one day anxiously questioned by an ardent disciple of that cult as to whether he really was of that "hygienic persuasion." Mr. Spencer replied, "Yes; I was a vegetarian for a year." Delighted, his interlocutor now demanded if he had maintained the vegetarian *régime*—and surmised that in any case he had found immense benefit from it, particularly mentally. "At the end of that year," went on Mr. Spencer in his dry voice, "I read over all that I had written during the period, and forthwith consigned it *in toto* to the fire."

Yellow-fever Serum for Cuba.—Dr. Doty, health officer of the port of New York, is working on the serum treatment of yellow fever with cultures of the bacillus obtained from Sanarelli (*Sun,* April 23d). His experiments have been in progress for six months, and so far promise satisfactory results. The surgeons of the National Guard are to be invited to be present at the final test.

A Course of Lectures on Climatology before the New York Post-graduate Medical School and Hospital, by Dr. S. E. Solly, of Colorado Springs, is in progress. The dates of the lectures are April 25th, 26th, and 29th and May 2d, 4th, and 6th.

Micro-organisms in Ice Cream.—At the recent trial of an Italian ice-cream vender in London (*Food and Sanitation,* April 16th) Dr. Stevenson, of Guy's Hospital, stated that an analysis of the cream, which contained 84.38 per cent. of water, showed 4,186 organisms to the cubic centimetre, including three of the *Bacillus coli communis.*

The Decalogue of the Tuberculous.—*Lyon médical* for April 10th breaks into verse with ten commandments for tuberculous patients as follows:

Toujours air pur respireras
Dès le début du traitement.

A l'air libre t'exerceras
Pour te guérir promptement.

Qu'uniforme soit le climat
Est précepte très important.

Par le temps frais tu porteras
Des habits chauds suffisamment.

Avec Phœbus te lèveras,
Te coucheras pareillement.

Travail quelconque ne feras
Qu'en dehors de l'appartement.

Jamais de part tu ne prendras
Qu'aux jeux le thorax dilatant.

D'être propre il t'importera
En toute chose absolument.

Des précautions tu prendras
Contre le refroidissement.

Vénus tu ne fréquenteras,
Mais mangeras abondamment.

A medical man known by the pseudonym of "Milner Kenne" has furnished us with the following translation:

You that to break consumption's bonds desire,
See that henceforth you wholesome air inspire.
In this commandment, also, virtue lies;
Be prodigal of outdoor exercise.
An even climate, too, must be your lot,
Nor now too cold, nor now exceeding hot.
Inclement weather likewise needs your care,
Be sure that clothing warm enough you wear.
On Phœbus' chariot ride from east to west;
With him arise, and with him sink to rest.
No close confining occupation yours,
But rather one that outdoor life insures.
Of sports and games select as being best
Those that contract not, but expand, the chest.
This way another point, too, will be gained;
In all you do, be ever self-contained.
There yet remain two cautions for you still:
The first, be careful to avoid a chill;
The next, of Venus' wasteful rites beware,
And live upon abundant wholesome fare.

Exploratory Incisions in Relation to Clinical Training.—Mr. Frederick Treves concludes a paper on the subject of abdominal section as a medical measure with the following weighty words: In conclusion, I can not avoid one word on the subject of this self-same exploratory incision. That this simple procedure has been of enormous value no one will doubt; that it has been the means of saving many a life has been amply demonstrated; that it has enabled a correct diagnosis to be made and a logical treatment to be carried out in hundreds of obscure cases needs not to be insisted on; but there must arise in the minds of many the question whether the exploratory incision, infinite as its value may be, is an entirely unmixed blessing. I notice that there are indications which tend to allow this ready measure to replace the admirable labor of clinical observation. The incision is so simple, the collecting and arranging and judging of clinical evidence is so difficult and tedious. With a scalpel in the hand, the patient, searching examination of the abdomen as practised in older days is no longer needed, and it is a question whether the education of those who wish to become acute clinical observers has not suffered a little thereby. —*British Medical Journal; Canadian Practitioner,* April.

A Remedy for Bedbugs.—We are told (*Zeitschrift für Krankenpflege,* February; *Lyon médical,* April 10th) that acetic acid injected by means of a glass syringe into all the cracks and crannies is an excellent remedy against these troublesome pests, as a drop of acetic acid infallibly kills a whole nest of them.

The California Medical Journal.—In the April number the editor has a column headed "Beats 'Keely Cure,'" in which he reproduces an advertisement of the Dr. Sweany type from "a Salt Lake paper" under the title of "Most Wonderful Cure. George Simmons alias 'Morphine Dutch' restored to Manhood." The advertisement sets forth the harrowing condition of "an irrefragable" cocaine and morphine fiend, of whom "many individuals were very much in fear, . . . since he has more than once been up before the judge for violence when provoked," notwithstanding that "he was a picture of the most abject degradation *and impotence*" when the wonderful "self-made Western man" who discovered his cure partly by experiment and partly by accident took him in hand. And of the Salt Lake physician who thus degrades his profession, the editor says: "We hope to hear more of his methods and success later on." We observe that the physician and the *Journal* are of the "Eclectic School"; but, since they represent one legalized aspect of the medical profession, that does not abolish the harm inflicted by such degrading methods upon the healing art at large.

The Death of Dr. Appia, of Geneva.—We learn from the *British Medical Journal,* April 9th, that Dr. L. A. Appia, of Geneva, died recently in his eighty-sixth year. He served in the Italian campaign of 1859 and it was his experience of the horrors of Magenta and Solferino that led him to take a considerable share in the organization of the Red Cross Society.

Theories of Healing.—Professor Behring, in a recent address (*Deutsche medicinische Wochenschrift,* No. 5, 1898; *British Medical Journal,* April 9th) at the Marburg University, gave an interesting account of the history and development of the ætiological and isopathic theories, and of their influence on the thought of the time. Broadly speaking, the ætiological theory was concerned with the causes of disease existing outside the body only, while the isopathic theory was chiefly concerned with the means employed for protecting the body from external causes of disease. Professor Behring gave a short history of the earlier theories of healing, with the appropriate motto for each. The Hippocratic principle was contained in the words *aliena alienis,* while the opinions of Galen were embodied in the words *contraria contrariis.* The motto of homœopathy was *similia similibus,* while *æqualia æqualibus* belonged to isopathy, the most modern development. Professor Behring described the difference between old and new theories by criticising the explanations given by each concerning the action of quinine in malarial disease. This drug (in the form of Peruvian bark, of course) was used by Sydenham, who was the first to observe the remarkable effect it had on the disease. At one time quinine was said to "brace up" the nervous system and thus render the body less "impressionable" to the action of the malaria poison. In modern times attention had been solely directed to the hæmatozoon in the blood corpuscle, whose vitality was more or less affected by quinine. Lister was called the pioneer of the ætiological theory. The fact that wounds would heal of their own accord if allowed rest and cleanliness was one of the most startling revelations of modern times. The action of antitoxine and serum therapeutics in general formed the chief part of the address, which contained a summary of the work done by such authorities as Pasteur, Koch, Ehrlich, Wernicke, Pfeiffer, and others.

What do we Eat?—A French analyst some time ago, says the *British Medical Journal* for April 9th, amused himself by constructing a *menu* of the dinner of one who greatly daring would dine at a cheap restaurant in Paris. The exact items do not matter, but the general idea was that the diner after swallowing soup made from a meat extract preserved by the addition of boric acid, was regaled with fish preserved from putrefaction by the same means; that his vegetables had been preserved in a bottle and given, by the addition of copper, a bright green color which produced a delusive appearance of freshness; that his sweet was made from fruit preserved in a solution of salicylic acid; that he ate with his cheese, which itself was loaded with mutton fat or cotton oil, margarine spread on bread whitened with alum and made from flour to which plaster of Paris had been added to give it weight in the scales. These delectable viands were washed down with a plastered wine colored with fuchsine, while the liqueur with which he hoped to correct the evil effects of the rest was made of crude spirit sweetened with beetroot sugar and flavored with a coal-tar product. His coffee—but the analyst refused to discuss the coffee: the subject, he said, was too complex. M. de Nansouty has recently been withdrawing the veil which conceals the composition of coffee in France. He tells us that even the careful man who buys his coffee in the green berry is not altogether safe; very inferior berries are dyed to match the better sorts, or some of the berries are made of clay molded and dyed to look like the genuine berries with which they are mixed. If he buys his berries roasted he is more easily deceived. The artificial berries in this case are made of coffee grounds mixed with baked flour. The berries, false and true, are then roasted with a little fat, white of egg, sugar, or molasses, and acquire a beautiful brown varnish "pleasing to the eye." The weight of both green and roasted berries is increased by exposing them to steam so that they imbibe moisture. But the man who buys his "coffee" ground is indeed rash. The list of constituent parts is long: chicory (which itself is sometimes adulterated!), beetroot, turnips, parsnips, carrots, dandelion, acorns, horse-chestnuts, hazel nuts, figs, prunes, couch grass, pistachios, almonds, walnuts, peanuts, dates, apples, pears—all these substances, generally in "damaged" condition, are mixed together, ground and roasted, and mixed with a little real coffee.

The Hunterian Lectures on Surgery of the Kidney.—Mr. Henry Morris, F. R. C. S., thus summarizes his second lecture (delivered at the Royal College of Surgeons of England) on Renal Calculus: the Difficulties and Errors in Diagnosis in their Relation to Exploration of the Kidney: Unsuspected, Quiescent, and Migratory Calculi (*British Medical Journal,* April 9th):

The conclusions at which I have arrived are the following:

(1) That the aim of the surgical treatment of renal calculus should be to extend the application of nephrolithotomy, and thereby restrict the necessity of nephrotomy and nephrectomy.

(2) That more frequently than not the failure to find a stone is not in reality a failure of treatment, because there are so many curable morbid conditions which mimic renal calculus, and which are discoverable only by exploration.

(3) That the theory that a stone in one kidney, whether that kidney is itself painful or not, reflects or transmits pain to the opposite kidney is quite unproved; that it is a dangerous theory, calculated to lead to very erroneous practice; and that the surgical principle with regard to exploratory operations should be that with pain, paroxysmal or continuous, on one side only, the kidney on the painful side should be explored.

(4) That nephrectomy for calculous conditions is not often called for, and should be done only in exceptional cases. Nephrotomy for calculous pyonephrosis is the proper operation, at any rate as a primary operation, because of the frequency of double calculous disease. Experience has shown that kidneys from

which stones weighing eight hundred and thirty grains and one thousand three hundred grains have been removed are functionally sufficient to maintain life during the blocking of the ureter or suspended action of the kidney of the opposite side.

(5) That nephrectomy while the opposite organ is occupied by calculus is fraught with the greatest danger to life; whereas nephrectomy, after the opposite kidney has been freed of stone, will probably be followed by recovery from the operation and possibly by very good health for many years afterward.

(6) That when renal calculus causes reflected or transferred vesical or ovarian pain, the removal of the calculus will be followed by complete cure of the bladder or ovarian symptoms.

(7) That in some cases renal calculous conditions are attended by very remarkable nervous symptoms, sometimes with, sometimes without, high temperature, and that information as to the cause of these symptoms is needed.

(8) That unsuspected renal calculi are a source of very real danger to their possessors; and when, whether by accident or by the systematic examination of the urine, we have cause to suspect the presence of a calculus, we should recommend its immediate removal, regardless of the fact that it is not causing renal or transferred pain.

(9) That quiescent calculus is as dangerous to the individual as unsuspected calculus, and ought to be removed by operation.

(10) That the hitherto accepted teaching, that a renal calculus, if causing only mild symptoms, or attacks of severe colic of only recent occurrence, should be treated on the expectant plan, ought to be discarded as unsound in theory and dangerous in practice.

(11) That the same principle should be applied to renal calculus which has long been the rule in regard to vesical calculus—namely, when suspected it should be searched for, when known to exist removed, without waiting in the hope that it may become encysted or spontaneously expelled.

(12) That the very low mortality of nephrolithotomy puts this operation upon the same footing for renal calculus as lithotrity in the most experienced hands for vesical calculus.

Homœopathy in Bavaria.—At a recent meeting of the financial committee of the Bavarian Parliament Herr Landmann proposed that a university chair of homœopathy should be established in the University of Munich. The minister replied that the university, to which the question had been referred, had replied that the need of such a chair was not felt, inasmuch as homœopathy was not a science. A similar incident, which ended in like manner, occurred not long ago in the Würtemberg Landtag.—*British Medical Journal*, April 9th.

Ether-drinking in East Prussia.—Ether-drinking, says the *British Medical Journal* for April 16th, which was so prevalent in certain parts of Ireland a few years ago, was attributed by some to the success of Father Mathew's crusade against alcohol. The propounders of this theory appeared to hold with Byron that "man being reasonable must get drunk," and that if he could not fulfill this hypothetical law of his being by means of the stimulants in common use, he was pretty sure to find some other agent for the purpose. According to Dr. Sohn, a medical official of East Prussia, men, women, and children in that province indulge so freely in ether-drinking that the roads and markets reek with the mawkish fumes of the drug, just as the railway carriages on the lines of some market towns in the North of Ireland used to do on fair days. The schoolmaster's teaching is powerless against the pernicious habit; and it may be gathered, though the fact is not expressly stated, that the pastor's homilies are equally ineffective. Lithuanian peasants, says Dr. Sohn, are the chief victims, and the favorite tipple, known as "Schwefeläther," and consisting of ether and spirits of wine, can be bought without the least difficulty in grocers' shops. Dr. Sohn attributes the spread of the practice to the imposition in 1887 of a duty on corn brandy, which costs about eightpence a quart, whereas ether, being untaxed, can be purchased for sixpence. The local authorities have prohibited the sale of the noxious stuff, save by apothecaries, and under medical authority; but it is expected that strong measures will have to be taken by the government to stamp out the evil.

The Rush Medical College and the University of Chicago.—The last bar to the complete amalgamation of these institutions, we learn from the *Peoria Medical Journal*, has been removed by the generous assumption of the medical college's debt of $71,000 by Dr. Ephraim Ingals, Dr. Nicholas Senn, and Dr. E. Fletcher Ingals.

Cratægus Oxycantha (English Hawthorn) in Angina Pectoris.—On October 10, 1896, we published a letter from Dr. M. C. Jennings, of Chicago, on the use of this drug in various forms of heart disease. The *Kansas City Medical Record* for April contains a paper on Cratægus Oxycantha in Angina Pectoris which was read before the Jackson County (Missouri) Medical Society by Dr. Joseph Clements on March 24, 1898. Dr. Clements himself was the patient, and he records the onset of the disease and its progress up to two years ago. The attacks came frequently, the interval varying from two or three months to two or three weeks. After many ineffectual attempts among the druggists, Dr. Clements at length obtained a supply of the fluid extract through the courtesy of Dr. Jennings. Dr. Clements says: "I began with six drops, increasing to ten, before meals and at bedtime. In twenty-four hours my pulse showed marked improvement; in two or three weeks it became regular, smooth, and forceful. Palpitation and dyspnœa soon entirely left me; I began to walk up and down hills without difficulty, and a more general and buoyant sense of security and well-being has come to stay. . . . After three to four months' use of the remedy, beginning over a year ago, and intermitting a week now and then, and an occasional use for a day or two once or twice since, every symptom of the disease has left me, so far as I can know myself. . . . Of course, as to the permanency of these results time alone must declare; it is too recent a cure to be too self-confident about." As regards the *modus operandi* of the drug Dr. Clements says but little is as yet known; it has been ascertained, however, that it exercises a remarkable influence over the vagus and sympathetic nerves. Shortly after its ingestion the cardio-inhibitory centres become active, the pulse rate is diminished and the intraventricular pressure is increased, filling the heart with blood, and thus bringing about an equilibrium between the general blood pressure and the heart's impulse.

Bougies of Protargol.—In our issue for January 22d Dr. Hermann Goldenberg announced his intention of trying gelatin urethral bougies of protargol as soon as he could have them made in the proper manner. We now learn that the Standard Chemical Company, of Philadelphia, has made these bougies, and we have no doubt, from the company's reputation, that they will prove to be well made.

Of the Making of Books there is No End.—"Just as I expected," will say a lot of fellers, when they read this. Now, hold on; don't say it before you know what it is about. Dr. Willis King wrote a book. Dr. Frank Lydston wrote a book. Dr. Weir Mitchell wrote a book. Dr. Ian MacLaren wrote a book. A whole lot of fellers wrote a book. Now, why shouldn't *I* write a book? Somebody said, "Oh, if my enemy should write a book"—(I forgot what he said he'd do if he did). Well, I ain't anybody's enemy in particular; but I've written a book all the same. It will be published pretty soon, now; just as soon as I can get somebody to publish it, and (it's already written) it will be called *Recollections of a Rebel Surgeon; or, In the Doctor's Sappy Days.* A series of short sketches, personal reminiscences—mostly humorous—of life in camp, field and hospital "endurin' of the war"—by F. E. Daniel, M. D., editor *Texas Medical Journal,* late surgeon, C. S. A., etc., and I want every fellow who owns, controls, or runs a medical journal on shares—and who has a kindly feeling for yours truly, and any kind of regard for Betty and the baby, to announce the important fact—say it out loud, in a way calculated to make the book sell (don't say it is a "sell," but help to make it sell, see?). It's real good.—(*Hot Springs Medical Journal,* April, 1898.)

All right. If the book is as "good a fellow" as the author, it will do: but what have Oliver Wendell Holmes and Conan Doyle done that they should be passed by in silence, while the Rev. "Ian MacLaren," LL. D., is named?

The New York Academy of Medicine.—A meeting of the Section in Laryngology and Rhinology was to be held on April 27th with the following programme: (1) Presentation of new instruments and apparatus; (2) Exhibition of cases, including (*a*) Tuberculous Ulceration of the Larynx and Nasopharynx, by Dr. W. C. Phillips; (*b*) Extensive Orbital Cellulitis following an Operation for Nasal Polyps, by Dr. T. J. Harris; (3) a paper on The Treatment of Hoarseness in Singers and Public Speakers, by Dr. F. A. Bottome.

Honors for Dr. Osler.—The University of Aberdeen, Scotland, proposes to confer (*Lancet; Texas Medical Journal*) the honorary degree of LL. D. on Dr. William Osler, of Johns Hopkins University, Baltimore.

Vaccination Sequelæ in London.—According to the *Revue médicale* for April 13th, three infants, each under a year old, died a week or two before in Battersea, London, from erysipelas consequent upon vaccination, while five others recently vaccinated were in hospital with the same disease. The coroner summoned an inquest, which was taking place before a jury composed of twenty-three jurymen. A sitting was held over each of the deaths, and the coroner adjourned the inquest for a month to await results in the case of the five sick children. In the event of their death, the cases were to be heard before the same jurymen. There is considerable excitement, the opposition to the compulsory vaccination law having increased considerably in England during the past few years.

Sphæranthus Indicus and Sphæranthus Mollis.—Mr. R. P. Banerji, of Puchbadra, Rajputana, states in the *Indian Medical Record* for March 16th that he has treated five hundred cases of acute rheumatism and eight hundred and fifty-two cases of respiratory affections ranging from simple amygdalitis and mild bronchitis to croupous pneumonia with the following native Indian drugs:

Botanical Name.	Bengali.	Quantity.
Sphæranthus indicus	Garak moondee	8 ounces;
" *mollis*	Sidet moondee	8 "
Physalis somnifera	Asgand	16 "
Asparagus racemosus	Satawari	8 "
Piper longum	Piplee	2 "
Licorice root	Jostoo modoo	4 "

These are finely powdered and covered with about eighty ounces of water and boiled in a closed vessel until about two pounds of clear decoction is left. While hot, this mass is strained through flannel and the filtrate carefully stored in well-corked bottles. The dose varies from two drachms to two ounces, according to the age of the patient.

All these drugs are cheap and readily procurable, and the author states that his reason for employing this mixture was that he wished to combine the tonic, diaphoretic, expectorant, and stimulant properties of the *moondees* with the antirrheumatic action of *asgand,* the antiperiodic and antimalarial properties of *satawari,* and the antiphlogistic and expectorant effects of *piplee,* to which he added the licorice root as a *demulcent.*

In a few cases the author supplemented this preparation with quinine, as he found that the rheumatism yielded more readily to the antimalarial remedies than to the antirrheumatics and to the anodynes. Persons of all ages, classes, and conditions tolerated the preparation well and raised no objections to the taste and odor, and the results obtained were very satisfying.

The author states that during the administration of this decoction there was an equable diaphoresis followed by a regular and steady fall in temperature which was unattended by the depression of spirits so common after the use of the diaphoretics and antipyretics in general use. In the pneumonia of children it was superior to ipecacuanha, and its expectorant properties were well marked in lung affections, while as an analgetic, diaphoretic, and diuretic it was simply invaluable in rheumatism, in which it rapidly allayed the pain. In some cases it acted as a cholagogue, caused the accumulated bile to be discharged freely with the fæces, and gave great relief to patients who were habitually constipated.

In the Sanskrit text, the author states, the action of *moondee* is described as laxative, stimulant, bitter tonic, nerve stimulant, antipyretic, antimalarial, expectorant, aphrodisiac, antiphlogistic, digestive, anthelminthic, diaphoretic, and antibilious, and, therefore, he thinks sphæranthus ought to be given a prominent place in the British Pharmacopœia.

Locomotor Ataxia in Husband and Wife.—In the *British Medical Journal* for April 9th the following instance of locomotor ataxia is recorded by Dr. E. F. Trevelyan, as it presents certain features of interest: The wife, fifty-five years old, began to suffer from pains in the legs some twenty-seven years ago. A year later she had difficulty in walking, and a sensation of loss of feeling in the feet and legs. Twenty years ago she was in the Leeds General Infirmary under Dr. Eddison's care, and five years ago she was again admitted under Dr. Barrs's care with an anthropathy of the left knee. She has been confined to her bed for more than two years and a half. Nearly a year ago she sustained a spontaneous fracture of the right leg. The patient is a rather stout woman with marked meiosis. The pupils do not react to light. She can no longer walk or even stand. She suffers from occasional attacks of pains in the legs, but they are not as severe now as formerly. There have been attacks of gastric pain and vomiting, but not during the past few months. There is no girdle pain. There is no very definite loss of tactile sensation as tested by the brush except perhaps over the outer side of the thighs. Here also the skin and subcutaneous tissue can be strongly pinched without causing pain. At times she is unable to hold her water, and at other times she has to strain to pass it. Both knees are swollen and the left is considerably deformed, but there is little evidence of fluid in them. There is some slight creaking on passive movement, but there has never been much pain, if any, in the knees, apart from the legs. At the site of the fracture of the tibia there is a considerable amount of callus present, but the union appears firm. The arms are unaffected with the exception of occasional pains, and the patient can sew with ease.

The husband, who is fifty-eight years old, first had lightning pains some twenty-six years ago. Difficulty in walking soon followed, and the incoordination ultimately became so marked that he could only follow his occupation on his knees. He was also in the Leeds General Infirmary some twenty-three years ago under Dr. Eddison's care. He has been confined to his bed for the past fourteen months. Less than a year ago he was seized with a left hemiplegia, which soon, however, began to improve. The pupils are small and unequal, the right being the larger; they do not react to light. There is marked incoordination in the legs. The knee-jerks are absent. The patient has more severe pains than his wife, but has no gastric symptoms. There is no certain loss of tactile sensation. He has occasional difficulty in passing his urine. There is some degree of incoordination in the arms. The left arm and leg are distinctly weaker than the right, but there is no trace of rigidity.

There have been twelve children, of whom only three (the first, third, and eighth) are now living. The second died of rheumatism and cardiac disease, aged fifteen years; the fourth, sixth, seventh, and ninth died in infancy; the fifth died at birth, and the tenth was a miscarriage. There is now marked loss of sexual power in both patients, and in the man it is nearly abolished. Both temporary and permanent hemiplegias, says the author, have been noted in the course of locomotor ataxia, and they have been looked upon as syphilitic manifestations and, to some extent, as confirmatory of the part played by syphilis in the causation of locomotor ataxia. In this instance, he says, the weakness still persists, although it is not marked. So far as is known, there has been no return of the knee-jerk in this case.

The onset of the locomotor ataxia, Dr. Trevelyan says, was apparently within ten years after marriage. In this case the interval between the onset of the disease in the husband and that in the wife appeared to be a year and a half; in other recorded cases it has generally been from two to five years; occasionally it is stated that the disease has existed in one partner for many years.

Dr. Trevelyan states that the number of cases in which locomotor ataxia has been observed in married couples is comparatively small, and that its occurrence in such cases has been looked upon as confirming the current view of the relationship of this disease to syphilis. In the present case the history of the offspring gave the clearest possible indication of past syphilis in the parents.

During the past twenty years, the author says, the evidence in favor of a close relationship between syphilis and tabes dorsalis has been accumulated to an almost overwhelming degree by Fournier, Erb, Grasset, Gowers, Möbius, Oppenheim, and others. There are, however, he adds, still one or two distinguished authorities who impute to syphilis hardly any part whatever in the causation of locomotor ataxia. Still others are disposed to think that the part attributed to syphilis has been excessive; and few, if any, observers believe that syphilis is the sole and only cause of locomotor ataxia, although the renewed statistics published by nearly every author have shown a steadily advancing increase in the percentage of past syphilis in tabeties.

The relation of syphilis to tabes dorsalis is not, Dr. Trevelyan thinks, of theoretical interest alone, because the question arises as to whether the disease may be benefited in its earlier stages by antisyphilitic treatment. Very different views are held upon this subject, he says, but he thinks it may be safely stated, with Möbius, that an antisyphilitic course judiciously carried out will not harm the individual and may do good, especially if there is a comparatively recent history of syphilis, and the more so if some syphilitic manifestation is still present.

The Value of Barium Chloride in Heart Disease.—The *Therapeutic Gazette* for April 15th contains a leading article in which the writer compares the action of this drug to that of digitalis. In small quantities, he says, it possesses a physiological action closely allied to that of digitalis so far as its influence upon the heart is concerned. It slows the heart very greatly, steadies its rhythm, and noticeably increases the quantity of blood which is thrown out of the ventricle at each contraction. At the same time it increases blood pressure, as the careful studies of Kobert have proved.

The writer thinks it is probable, from the studies of this investigator and others, that it exercises a more powerful systolic influence over the ventricles than digitalis does, the slowing of the pulse being due rather to an excessive systolic action of the drug and to high arterial tension than to any effect which the drug may exercise upon the pneumogastric nerve. For this reason, he says, it is one which apparently should prove useful in a certain proportion of persons with cardiac diseases who, for one reason or another, fail to obtain benefit from digitalis, although the latter is superior in the majority of cases.

A number of clinicians, the writer continues, have employed this drug in the treatment of heart disease with failing compensation, both in adults and in children, particularly when the pulse is weak and irregular and is lacking in volume. The writer states that he has used barium chloride in a number of cases, and he has reached the conclusion that it is of value, although it must take rank below both digitalis and strophanthus as a cardiac tonic.

The dose for an adult is a teaspoonful of the one-per-cent. solution three times a day, and half as much for a child of from six to ten years. These doses do not cause irritation of the gastro-intestinal tract, and very much larger doses of barium chloride are required before it will act as an irritant poison; the writer sees, therefore, no reason why it should not be tried in the treatment of heart disease.

The Medical School of Cornell University.—It seems from newspaper announcements that Cornell University has really established a medical school in New York. The faculty, according to the *Sun*, consists of the following-named gentlemen: Dr. William M. Polk, dean and professor of gynæcology and obstetrics; Dr. J. Clifton Edgar, professor of obstetrics; Dr. Lewis A. Stimson, professor of surgery; Dr. Frederick H. Gwyer, professor of operative and clinical surgery; Dr. R. A. Witthaus, professor of chemistry, physics, and toxicology; Dr. W. Gilman Thompson, professor of medicine; Dr. George Woolsey, professor of anatomy and clinical surgery; Dr. H. P. Loomis, professor of materia medica, therapeutics, and clinical medicine; and Dr. Irving S. Haynes, professor of practical anatomy.

The Hospital Saturday and Sunday Fund collected in the year 1897 amounted to about $68,000. It is announced that the undesignated portion, amounting to $55,000, has been apportioned as follows:

Montefiore Home	$5,500 00
St. Luke's Hospital	5,213 32
Mount Sinai Hospital	5.272 40
German Hospital	3,616 90
Roosevelt Hospital	3,446 07
St. Mary's Hospital	2,106 69
Mothers' Home of Misericordia	2,029 48
Isabella Heimath	1,982 73
Orthopædic Hospital	1,872 54
Hospital for the Ruptured and Crippled	1,723 84
Home for Incurables	1,660 05
Flower Hospital	1,390 93
St. Mark's Hospital	1,352 88
Post-Graduate Hospital	1,294 03
Holy Comforter	1,183 07
Nursery and Child's Hospital	1,186 70
Lebanon Hospital	1,180 27
Colored Home	1,132 29
French Hospital	1,112 96
Infirmary for Women and Children	1,109 90
Woman's Hospital	1,004 18
J. Hood Wright Memorial Hospital	957 53
Beth Israel	742 56
St. John's Guild for Children	737 20
Cancer Hospital	713 31
New York Eye and Ear Infirmary	708 01
Manhattan Eye and Ear Hospital	668 14
Mothers' and Babies' Hospital	642 40
Babies' Hospital	606 17
Ophthalmic Hospital	589 15
Skin and Cancer Hospital	491 49
Hahnemann Hospital	416 54
Ophthalmic and Aural Institute	356 17
Medical College and Hospital for Women	250 00
New York Polyclinic	250 00
Marion Street Maternity	250 00
Convalescent Home	250 00

The Sterilization of Instruments.—A method recommended by de Schweinitz deserves notice (*Ophthalmic Record*, 1897; *Bristol Medico-chirurgical Journal*, March, 1898). If the instruments are placed in a box in which there is a small dish of formaldehyde, and to this latter a small piece of calcium chloride is added, a tight cover being at the same time adjusted, enough formaldehyde gas is disengaged to render the instruments sterile in ten minutes, though a much longer exposure does not harm them.

The Philadelphia Pædiatric Society.—On April 12th Dr. William P. Northrup, of New York, read before the society a paper on The Portal Entry of Tuberculosis in Childhood.

A Splint for Fracture of the Lower Jaw.—A contributor to the *American Dental Weekly* for April 21st states that a good splint to receive the pressure of the bandage and support the lower jaw, in case of fracture of that bone, is made by molding a sufficiently large piece of modeling compound to fit over the chin and back to the rami, or as far as judgment dictates. This can be done by simply holding the warm material in place with the hand, shielded by a piece of paper or cloth.

The North Carolina State Dental Society.—The twenty-fourth annual meeting will be held in Fayetteville, on Wednesday, May 11th. The State board of dental examiners will meet in the same place on Monday, May 9th, for the examination of all candidates for license to practise dentistry in the State.

The American Laryngological, Rhinological, and Otological Society.—The fourth annual meeting will be held in Pittsburgh on May 11th and 12th, under the presidency of Dr. William H. Daly, of Pittsburgh. In addition to the president's address, the programme includes the following papers:

The Relation between Diseases of the Nose and Nasopharynx and Middle-ear Inflammation, by Dr. Edward B. Dench, of New York; Hæmorrhage from the Lower Throat, or Hæmorrhage from the Larynx and Lingual Tonsil, by Dr. Howard S. Straight, of Cleveland; Pathology and Treatment of Tonsillitis Abscendens, by Dr. Norval H. Pierce, of Chicago; Rhinoliths, by Dr. J. F. Hill, of Waterville, Maine; Dysphonia, by Dr. T. C. Christy, of Pittsburgh; Modern Possibilities in Chronic Catarrhal Deafness, by Dr. Sargent F. Snow, of Syracuse, N. Y.; A Case of Rhinopharyngeal Fibroma with Projections Extending to both Anterior Nares, by Dr. H. W. Loeb, of St. Louis; Primary Epithelioma of the Antrum of Highmore, by Dr. Wendell C. Phillips, of New York; Sarcoma of the Nasopharynx, with a Report of a Case, by Dr. D. A. Hengst, of Pittsburgh; Gumma of Pharynx—Rheumatic Pharyngitis, by Dr. George T. Ross, of Montreal; A Report of Thirty Cases of Antral Empyema, by Dr. Frederic C. Cobb, of Boston; Chronic Inflammation of the Pharyngeal Tonsil, by Dr. Charles N. Cox, of Brooklyn; The Tricks of the Trade, or The Mechanical Technics of Operative Rhinology and Laryngology, by Dr. H. B. Hubbard, of New York; Remarks on Surgical Treatment in Caries of the Nose and Ear, by Dr. H. L. Wagner, of San Francisco; Acute Suppurations of the Middle Ear, by Dr. James E. Logan, of Kansas City; Brain Abscess complicating Chronic Purulent Otitis Media, with a Report of a Case, by Dr. James F. McKernon, of New York; Papilloma of the Larynx; Alcohol in the Treatment, by Dr. T. H. Halsted, of Syracuse, N. Y.; Some Remarks on Cholesteatoma of Mastoid, with a Report of Cases, by Dr. J. E. Sheppard, of Brooklyn; Pseudacousina, and a Report of Two Cases of the So-called Enuchoid Voice, by Dr. F. H. Koyle, of Hornellsville, N. Y.; Deductions from a Study of Unilateral Nasal Stenosis, by Dr. Lewis A. Coffin, of New York; Hæmorrhagic Tracheal Catarrh, by Dr. Ferdinand Massei, of Naples, Italy; The After-treatment of Restored Deflected Nasal Sæptum, by Dr. Charles W. Richardson, of Washington; Operative Procedures in Staphylorrhaphy, by Dr. J. C. Lester, of Brooklyn; Further Consideration of Basal and Basilateral Diseases of the Faucial Tonsils, with Improved Instruments for Treatment of Same—A Report of Two Cases of Nasal Adhesive-tissue Stenosis, Congenital and Scarlatinal, by Dr. Robert C. Myles, of New York; Some Observations on the Diagnosis and Treatment of the Singing Voice, by Dr. F. E. Miller, of New York; The Proper Mode of Laryngoscopic Examination, with Exhibition of an Improved Mirror, by Dr. H. Holbrook Curtis, of New York; Serious Consequences following Intranasal Operations, by Dr. Robert Levy, of Denver; Empyæma of the Maxillary Sinus, by Dr. J. A. Stucky, of Lexington, Kentucky; Perichondritis and Necrosis of the Arytænoid Cartilage, by Dr. William Scheppegrell, of New Orleans; The Relation of Nasal Disease to Pulmonary Tuberculosis, by Dr. S. E. Solly, of Colorado Springs, Colorado; A Case of Adeno-carcinoma of the Nose, by Dr. Max Thorner, of Cincinnati; Othæmatoma and Perichondritis of the Auricle, by Dr. John O. McReynolds, of Dallas, Texas; Mouth Breathing in Children, particularly as a result of Adenoids, by Dr. Arthur G. Hobbs, of Atlanta; and Bilateral Abductor Paralysis, with a Report of Several Cases in which Intubation was Successfully Used, by Dr. W. Cheatham, of Louisville.

The Paris Academy of Medicine.—The *Indépendance médicale* announces that by an act passed on April 6th the academy has been authorized to acquire the property known as No. 16 rue Bonaparte.

This Year's Boylston Prize, of $150, has, we learn from the *Boston Medical and Surgical Journal,* been awarded to Dr. Guy Hinsdale, of Philadelphia, for an essay on Acromegaly.

The International Medical Congress of 1900.—*Science* announces that the president of the French Republic, M. Faure, has consented to preside at the first session of the congress, which is to be held in Paris.

Women Doctors of Antiquity.—The first qualified woman physician in Europe, so far as is known, was a young Athenian woman, named Agnodice. In the year 300 B. C. she disguised herself as a man and began to attend the medical schools at Athens, which it was against the law for a woman to do. She afterward practised among the women of Athens with extraordinary success. But her secret becoming known, she was prosecuted for studying and practising medicine illegally. The Athenian women, however, raised so furious an agitation in consequence that the case was dropped and the law repealed. Coming to later times, we find several women who obtained the degree of doctor of medicine and practised in Europe before 1492, especially in the Moorish Universities of Spain. Trotula, of Rugiero, in the eleventh century had a European reputation, and practised as a doctor in Salerno. At the beginning of the fourteenth century Dorothea Bocchi not only received the degree of doctor but was professor of medicine in the famous University of Bologna. Since then two other women have been professors of medical subjects in the same university—Anna Mangolini (anatomy) and Dr. Maria delle Donne (obstetric medicine), the latter being appointed in 1799. In the year 1311 an edict was issued in France forbidding surgeons and female surgeons from practising until they had passed a satisfactory examination before the proper authorities. These female surgeons are again referred to in an edict in 1352.—*Philadelphia Medical Journal,* April 23d.

One Woman and her Doctor.—A wealthy San Francisco woman (*Weekly Medical Review; Monthly Retrospect,* April 15th) who had undergone an operation successfully performed by the physician she employed, was surprised when a bill of only $50 was presented to her. She remonstrated, saying that the sum was not sufficient for the work done for one in her circumstances. But the doctor persisted that $50 was his charge for that sort of operation, and her circumstances had nothing to do with it. She, however, sent him a check for $500, and was surprised when she later received a receipted bill for $450 for itemized services rendered to the poor humanity of the city. This pleased her so that she sent another check, which is being worked out in the same way.

The example is a good one and to the credit of both patient and doctor. Those patients whose financial ability renders them capable of recompensing their physician beyond the low rate which social conditions in many instances have established as the market value of his specific services would probably be more willing in this way to share in the doctor's unostentatious charities, while the physician who receives such supplementary fees does a service to his profession and to humanity at large by calling attention to the vast amount of charitable work done by the medical brotherhood.

Death from Cutting a Wisdom Tooth.—M. Heydenreich reported to the *Société médicale de Nancy* on February 28th (*Presse médicale,* April 9th) the case of a man, thirty-three years of age, brought to his clinic and said to be suffering from mumps. There was high and persistent fever, rising to 104° F., with agitation, delirium, stiffness of the jaws, and swelling over the right parotid extending into the neck. When M. Heydenreich saw the patient, on the third day of the grave symptoms, the condition seemed to have improved. The temperature was from 102.5° to 100.4°, consciousness had returned, and the swelling was strictly limited to the angle of the right jaw. The patient could open his mouth, and a drop of pus escaped by the jaw. All the teeth were there. It was certainly a case of suppurative osteitis of the inferior maxilla, due to the eruption of a wisdom tooth. There was not at this time any indication calling for operative measures. The next day, however, the patient became semiprostrate, and in the evening the temperature rose to 104.9° F.; on the fifth day he was taken in a moribund condition to the hospital. There was complete left hemiplegia. A free incision was made by means of the thermal cautery as far as the zygoma, but no pus was found. He died next day at midday, the temperature being 98.9° F. The autopsy disclosed pus on the right side between the cranial vault and the meninges up to the level of the convexity, toward the median region, and suppurative osteitis of the cranium. On opening the meninges, a bed of very thick greenish-yellow pus (showing meningo-encephalitis) was laid bare. There was no lesion in the interior of the brain.

THE NEW YORK MEDICAL JOURNAL, MAY 7, 1898.

Original Communications.

THE CARTWRIGHT LECTURES
ON
THE SURGERY OF THE STOMACH.*

LECTURE I.

GASTROLYSIS, GASTROTOMY, AND GASTROSTOMY.

By W. W. KEEN, M. D., LL. D.,
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UNTIL 1875 the surgery of the stomach did not exist. It is true that occasional recoveries followed wounds of the stomach, as in the celebrated case of Alexis St. Martin, more by good luck than by good management, one may say; and gastrotomy, like the Cæsarean section, which is as old as the Christian era, was occasionally practised when the surgeon was driven to it. These, however, were entirely exceptional cases. But the last twenty years have wholly revolutionized this department of surgery. Instead of abstention, when we simply stood by with folded arms and looked on until the patient died, our efforts limited to soothing his last days of suffering by opium, now the most radical operations are undertaken not only with a boldness, but with a success which, when we review it, may well startle those of us who practised surgery prior to that time. Not only is the stomach now loosened from adhesions or opened for foreign bodies and for stricture of the œsophagus, but in cases of ulcer, of cancer, and of local tumors, the stomach is invaded by resection, by pylorectomy, and by gastro-enterostomy, and even entirely removed, and is folded upon itself for dilatation, or for hour-glass contraction. Indeed, I venture to think that the time has come when we shall open the stomach for diagnostic purposes by an exploratory gastrotomy with the same freedom and the same success which attends our exploratory cœliotomies.

How rapid has been the development of this department of surgery is perhaps best seen by the fact that Haberkant and Chlumskij have tabulated five hundred and fifty cases of gastro-enterostomy alone, all operated on in the last sixteen years.

I have thought that in order to appreciate more fully the progress that has been made, and therefore, perhaps, to contribute still further to that progress, I could not do better than to make a general though somewhat hasty and, as far as possible, a conservative review of the various operations which have been devised by our modern masters in this field, and to see the results that have been achieved.

Apart from anæsthesia, which has made prolonged operations practicable, the modern surgery of the stomach has been rendered possible by two recent means. The first and most important was the discovery of antisepsis. Every department of surgery has been advanced by this surgical revolution, but it is not too much to say that without it the modern surgery of the brain, of the pelvis, and of the abdomen would be utterly impossible. Before the antiseptic era the abdomen was never opened except when the surgeon had no other alternative. Since its introduction we open the abdomen with a sense of security and a certainty of recovery which, were it not a familiar and even an everyday occurrence, would be perfectly marvelous.

The second factor in the development of gastric surgery has been experiment upon animals. Had vivisection contributed nothing else to the progress of surgery, its services in the surgery of the stomach alone would be sufficient to justify it.

In 1875 Tschertncisky-Barischewsky * resected the intestines in thirty-five dogs, with twenty-nine recoveries, a startling result when compared with the former fatality of such operations. This was the starting point in the new gastro-intestinal surgery. The next year Gussenbauer and Winiwarter † resected the stomach in only seven dogs. We scarcely can appreciate at this day, though these experiments are so recent, how many new questions had to be answered. After their first unsuccessful experiment they naïvely remark that certain facts were established by the experiment, among them that "the surfaces of the stomach have a real tendency toward union by first intention, . . . just as do wounds of the skin." (!) Whether this would be correct of man as well as of animals, they admitted, was as yet uncertain. Another point settled by the experiment was that "there was no digestion of the mucous membrane in the neighborhood of the wound." Their second experiment was followed by recovery, and showed not only that a partial resection could be successfully done, but that the stricture caused by the scar did not interfere either with the motor or secretory functions of the stomach, and that the ablation of the pylorus was not followed either by the too early escape of the food into the intestines or by the reflux of the intestinal contents into the stomach. The dog was killed five months later, and the post-mortem showed no stenosis by reason of the scar, no digestion of the edges, and his perfect health after the operation showed that the peristalsis of the stomach and its digestive functions had not been interfered with. Then, again, the question whether catgut or other suture material was the best, and what kind of a knot and what kind of a suture would best answer, were subjects of debate. And it is both curious and interesting to us as Americans to learn from their article that in 1810 Merrem * proposed pylorectomy, and stated that a Philadelphia surgeon had already tried it on dogs and rabbits, but without success. Unfortunately, I have not been able to learn who this American pioneer was.

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* Delivered to the College of Physicians and Surgeons (Medical Department of Columbia University) of New York, April 26, 1898.

* Inaugural Dissertation, St. Petersburg, 1875.

† *Arch. f. klin. Chir.*, xix, 347.

Our antivivisection friends, who so often declare that experiments upon animals have never contributed anything to the progress of surgical science, may well be challenged to account for the remarkable progress in gastric surgery which immediately followed these fruitful experiments. The dogs that died did not die in vain. They showed the correct methods and indicated errors in technic, and directly led up to the modern surgery of the stomach and the intestine as follows: In the very same year (1876) Hueter resected the bowel for artificial anus, though without success. In 1877 Czerny for the first time sutured the intestine and dropped it into the abdominal cavity, with recovery; followed almost immediately by Billroth, who did the first successful gastrorrhaphy and total resection of the bowel. In 1878 Forelli operated for a wound of the stomach, and in 1879 Cavazzani † did a partial resection of the stomach for tumor. In the same year Péan did the first pylorectomy. In 1880 Rydygier did the second, and in 1881 Billroth did the third and first successful one, without a knowledge of the preceding operations. Then followed gastro-enterostomy, enterostomy, later on total exclusion of a portion of the bowel, and in the stomach pyloroplasty, gastroplication, and gastrectomy, which, done many times to a partial extent, has recently even resulted in the successful removal of the entire stomach.

After this very hasty general survey of the progress of gastric surgery, let me enter into more detail and pass in review the various operations now performed on the stomach.

I. Gastrolysis.—Gastrolysis, or loosening the stomach from adhesions, has a somewhat restricted but still an important field in gastric surgery. The adhesions for which it is done arise most commonly from ulcer, but they may arise also from gallstones, peritonitis, etc. They may connect the stomach to any of the neighboring viscera, such as the pancreas, the liver, the gall bladder, the colon, or the spleen, or to the abdominal wall and occasionally to distant points. Not only do adhesions of this character produce colic and other painful symptoms, but they may easily give rise to a fatal constriction or volvulus of the bowel. When they arise posteriorly they cause relatively little trouble, since the organs posteriorly are stable. When the adhesions, however, take place to mobile organs, especially anteriorly, they give rise to very marked pain and digestive disturbances, which, in not a few cases, last for many years. These are due to traction on both the stomach and other viscera or the abdominal wall.

The condition is obscure and difficult of diagnosis. We can, however, sometimes determine it, and in a few cases it has been distinctly diagnosticated before operation. When it arises from ulcer, very frequently the thickening around the ulcer produces a distinct tumor which may be mistaken for a neoplasm and is not seldom thought to be malignant.

The character of the adhesions varies very much, from adhesions over a large area to those of a bandlike character. Of the latter, Lauenstein * gives perhaps the best description. The four following illustrations (Figs. 1 to 4) are selected from his paper and show some of the varieties of these adhesions to the gall bladder, intestines, etc. Most of the cases had suffered for as many as even ten to fifteen years. Operation by simple cœliotomy and excision of the bands or loosening of the adhesions was almost uniformly successful. Of Lauenstein's ten patients, all recovered except one. Robson † reported two successful cases in which not only were the gastric attacks of pain and discomfort relieved, but also the dilatation of the stomach disappeared as a result of loosening the adhesions. The adhesions in one case were due to gallstones (as in Fig. 1), and in the other to ulcer.

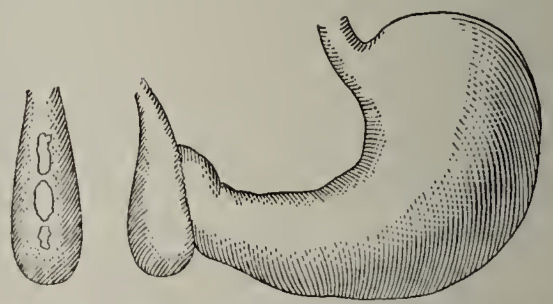
Fig. 1.—Adhesion of the stomach to the gall bladder. (Lauenstein.)

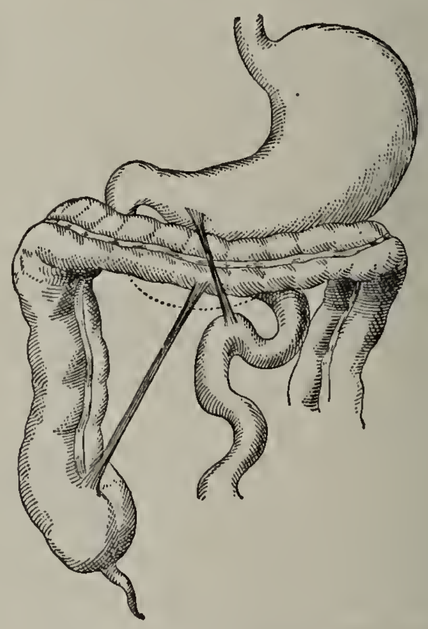
Fig. 2.—Adhesion of the stomach to the jejunum and of the cæcum to the transverse colon. (Lauenstein)

Naylor ‡ reports the case of a woman of forty-four

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* Animadversiones quædam chirurgicæ experimentis in animalibus factis illustratæ auctore Daniele Carolo Theodoro Merrem, Gissæ, 1810.

† *Gaz. med. ital. Prov. Venete*, 1879.

* *Arch. f. klin. Chir.*, 1892, xlv, 121.

† *Lancet*, 1893, ii, 1004.

‡ *Indian Med. Rec.*, February 1, 1898, 101.

years, who, for eighteen years, at irregular intervals, had daily vomited all of her food. In six weeks, while under his care, she had lost eighteen pounds in weight, and was in danger of dying from pure starvation. The abdomen was opened, and the stomach found tied down by adhesions to the bowel below. These were separated, and she made an excellent recovery, and at the time when the case was reported was apparently cured.

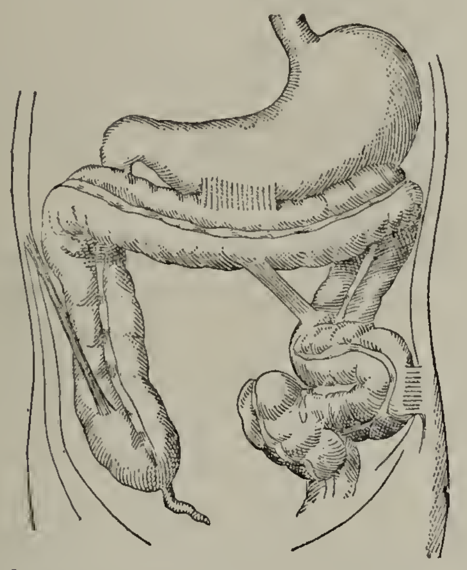

FIG. 3.—Adhesions between the stomach and the colon, and between the colon and the abdominal wall, etc. (Lauenstein.)

These cases are not unlike those of gastroptosis described later under gastropexy.

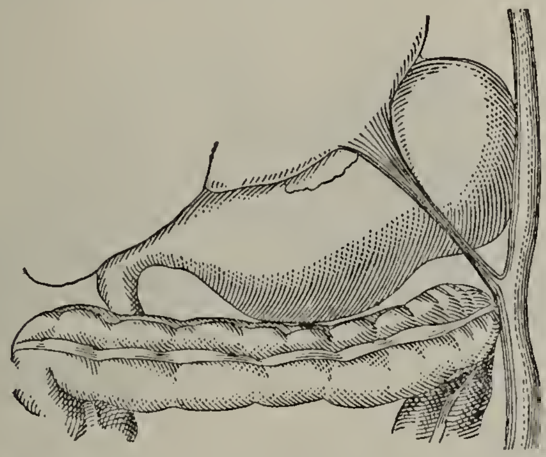

FIG. 4.—Adhesions of the liver and stomach to the abdominal wall. (Lauenstein.)

When the adhesions are very broad, and especially when they arise from inflammatory thickening around ulcers, the cases are much more serious than those in which they are more bandlike. Thus Terrier * reports the case of a woman of sixty-two years who had passed blood by the bowel, had long suffered from gastric disturbances, and had a tumor in the epigastrium, which was believed to be a carcinoma. At the operation the tumor was found to be connected with the lesser curvature, the anterior abdominal wall, and the liver. After separation of the adhesions, further operation was desisted from on account of a large number of enlarged lymphatic glands along the greater curvature, presumed to be cancerous. After suffering for some months after the operation, at the end of a year she was entirely cured and had gained ten pounds in weight, and the tumor had disappeared.

Still more difficult are those cases in which the adhesions are even more extensive. In these cases the operation of gastrolysis is often insufficient, and is replaced by resection or partial gastrectomy or gastroplasty. Thus Hofmeister * reports the case of a woman of thirty-four years, who for many years had persistent vomiting, which was occasionally bloody. An abdominal tumor of the size of a small fist was the seat of constant pain. Free HCl was present. At the operation the tumor was found to be connected with the stomach, and in the attempt to separate the adhesions the stomach tore. He then determined to resect the portion of the stomach which was connected with the tumor, which evidently arose from an ulcer. In doing so, adhesions to both liver and spleen had to be dealt with, and portions of both of these organs were removed with the tumor. The opening left in the stomach was half the size of the palm of the hand. Partial hour-glass contraction of the stomach had resulted. It was impossible to suture the borders of the opening without producing too much contraction. Accordingly, gastroplasty, or a Heineke-Mikulicz operation, was done. The patient recovered.

Two other similar cases, one by Billroth † and another by Mikulicz ‡ have been reported.

II. GASTROTOMY.—Three indications exist for the performance of this operation: (*a*) For the purpose of removing foreign bodies from the stomach; (*b*) in cases of stricture of the œsophagus; and (*c*) for exploration.

(*a*) *Gastrotomy for the Removal of Foreign Bodies.*—In 1886, Credé # collected twenty-six cases, of which a number had been successfully done as far back as the seventeenth century, the first one having been done in 1602. Up to 1880, which Meisenbach || assumes is the dividing line between the preantiseptic and the antiseptic era (I should rather place it at 1876), the total number of cases of gastrotomy for this purpose was eighteen, with fifteen recoveries. Since 1880 forty cases have been done, with thirty-two recoveries. The recoveries in the two periods were respectively 83.33 per cent. and 80 per cent. That so large a proportion of recoveries took place without antiseptics before 1880 is another evidence of the power of the peritonæum to resist infection. The number of foreign bodies removed has been simply enormous. In Meisenbach's case one hundred and twenty-seven staples, screws, horseshoe nails, wire nails, cartridges, knife blades, etc., besides an ounce of comminuted glass, were removed, and the total weight was one pound. In another case △ one

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* *Bull. et mém. de la Société de chir. de Paris*, xx, 424.

* *Beiträge zur klin. Chir.*, 1896, xv, 351.

† v. Eiselsberg. *Arch. f. klin. Chir.*, xxxix, 805.

‡ Kaensche. *Deut. med. Woch.*, 1892, No. 49.

Arch. f. klin. Chir., 1886, xxxiii, 574.

|| *Journal of the American Medical Association*, March 5, 1888, p. 513.

△ Gemmel. *Lancet*, 1894, ii, 432.

hundred and ninety-two nails, buttons, etc., were removed, weighing one pound nine ounces and a half, and Fricker[*] removed thirty-seven articles, weighing in all over half a pound, followed by recovery.

It is interesting to observe the methods of making a diagnosis. In one case[†] the diagnosis was made by administering to the patient some hydrochloric acid, washing out the stomach, and testing the contents with potassium ferrocyanide. In another, in the case of a metal fork,[‡] the diagnosis was established by an electromagnet; in another,[#] by an electric sound. In Meisenbach's case it is of interest to note that for the first time the diagnosis was made by the use of the X rays.

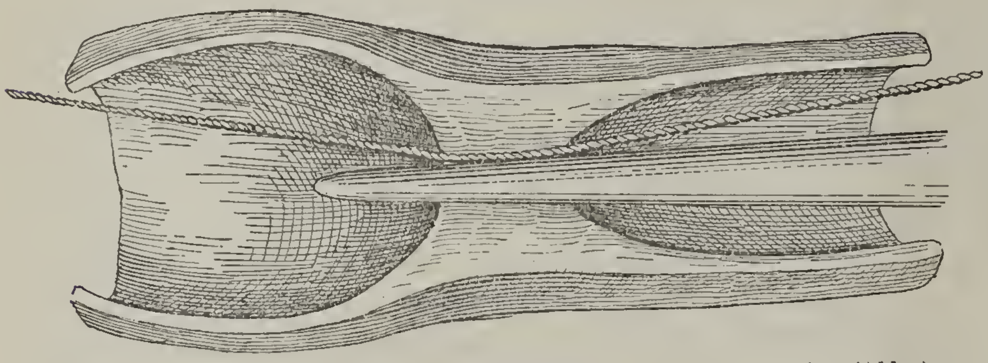

Fig. 5.—String dividing the œsophageal stricture kept tense by a bougie. (Abbe.)

Foreign bodies have been removed not only from the stomach itself, but in several instances by gastrotomy from the œsophagus, as in the well-known case of Richardson,[‖] who removed an artificial denture which had lain in the gastric end of the œsophagus for eleven months. The entire hand and forearm were inserted into the stomach, and the denture was removed through the stomach, with an immediate recovery.

(*b*) The second reason for doing a gastrotomy is in order to carry out a *retrograde dilatation for stricture of the œsophagus.*

In 1894, Franks,[△] in reporting the case of a woman of twenty-four who suffered from fibrous stricture of the œsophagus following scarlet fever, collected twenty-one cases of gastrotomy for retrograde dilatation or division of non-malignant œsophageal stricture. Since then a few additional cases have been reported. Loreta[◊] first did the operation in October, 1883, in a case of stricture following the ingestion of caustic alkali. In twenty cases of the twenty-one in Franks's table, of which the result is known, there was not a single death.

Dilatation can be done by two methods: (1) By immediate dilatation or division, if the stricture is suited to this procedure. In this case the stomach and the abdomen are immediately closed. If, however, a large portion of the œsophagus is constricted, and repeated dilatation, a little at a time, is required, then (2) a temporary gastric fistula is established, and, later, when the dilatation is accomplished, the fistula either closes spontaneously or is closed by a plastic operation.

Two or three ingenious modifications of the operation have been proposed and carried out. Hagenbach[*] produced a gastric fistula, then had the patient swallow a perforated shot attached to a string. The shot was seized through the gastric fistula, a stout thread drawn up through the œsophagus, and by its means the stricture was dilated by bougies. Lange[†] thus drew up some specially constructed knife blades, and did an internal œsophagotomy. Five cases treated by Hagenbach's method have been followed with success. In 1893, Abbe[‡] proposed his bowstring method. A string is passed through the gastric fistula and brought out either through the mouth or, better, through an opening in the œsophagus in the neck (Figs. 5 and 6). The stricture is put on the stretch by a bougie and the string is then sawed back and forth, and will only divide the tense stricture and not the relaxed portion of the œsophagus. This keeping the stricture tense all the time is essential to the success of the method. Franks himself was able to reach the stricture with the tip of his finger and dilated the stricture by Otis's urethrotome with the cutting blade removed. A bougie was then passed, then a string, to which was attached a plug of gauze, which was removed the same evening. On the thirteenth day the use of bougies from above was begun, followed by entire recovery.

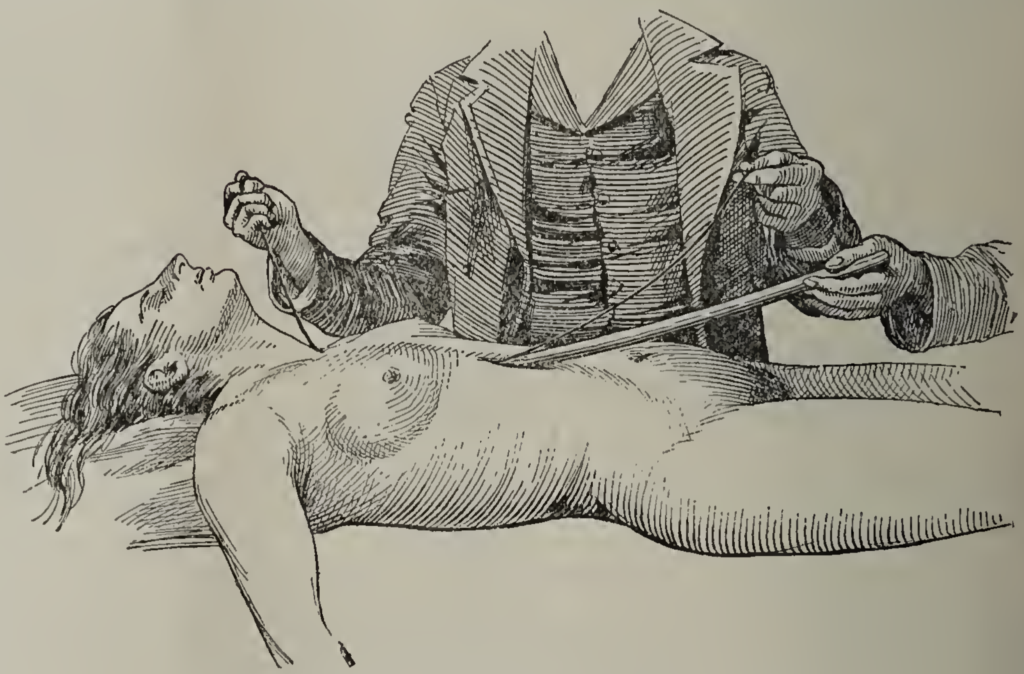

Fig. 6.—Mode of using the bougie and string. (Abbe.)

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[*] *Deutsch. med. Woch.*, 1897, No. 4.

[†] *Canada Lancet*, 1893, i, 20.

[‡] Pollaillon. *Bull. de l'Acad. de méd.*, August 24, 1886.

[#] Terrier. *Gaz. des hôp.*, 1890, No. 51.

[‖] *Boston Medical and Surgical Journal*, 1896, ii, 569.

[△] *Annals of Surgery*, xix, 385.

[◊] *British Medical Journal*, February, 1885.

[*] *Correspbl. f. schweiz. Aerzte*, 1889, No. 5.

[†] *New York Medical Journal*, 1890, xli, 131.

[‡] *Medical Record*, New York, 1893, xliii, 225.

Of course it would be understood that in any case which was amenable to dilatation through the mouth, resort would not be had to gastrotomy; but above the stricture the œsophagus becomes dilated and pouched, and it is often extremely difficult to find the small opening by means of a bougie from above. A bougie carried upward from the stomach through the collapsed œsophageal tube will much more successfully find the opening.

(*c*) The third reason for opening the stomach is purely that of *exploration,* in order, if possible, to reach a positive diagnosis when other means have failed. Maylard* distinctly says: "It is not too venturesome to predict that the day is not far distant when the stomach will be opened, explored, and resutured, for purely diagnostic purposes, with as much freedom and security as is now done, for instance, in the case of the brain." He then quotes two cases from Bradford † and Treves.‡ In both of these cases an ulcer was suspected. The stomach was opened, and in Bradford's case an electric light inserted and the interior of the stomach easily seen. In neither case was an abnormal condition discovered, and both patients not only recovered, but were cured of all their symptoms.

I am the more convinced of the innocuousness of this procedure, and that in the future it will be of great service and be more frequently resorted to, by reason of my experience in the following two cases:

On November 20, 1892, while nursing a case for me, and in perfect health, except that for two or three days she had suffered some discomfort at the pit of the stomach, which was attributed to indigestion, Miss K., a nurse, aged twenty-one years, without the least warning, vomited on two occasions within twenty-four hours between three and four pints of bright blood and passed a large amount by the rectum. After lying at the point of death for several days, she made a slow and imperfect recovery. On March 22, 1893, she vomited two ounces of pus, which was examined by a physician in Frederick, Maryland, where she then was, and he unquestionably identified its character. From then until the spring of 1897 she had four different attacks of moderate hæmatemesis. The only reasonable explanation of these repeated hæmorrhages from the stomach, and of the tenderness which existed at one point at the pit of the stomach, seemed to be an ulcer of the stomach. Accordingly, on March 15, 1898, I did a gastrotomy, intending to excise the supposed ulcer. After opening the abdomen, the most careful and minute investigation of the stomach anteriorly revealed nothing, save that the muscular and peritoneal coats externally could be pinched up and separated from the mucous membrane with more than the usual ease. At two points I then tore through the omentum and examined the posterior wall with the same thoroughness and found nothing. I was the more surprised at this, for, in view of her history, my impression was that an ulcer had existed, probably on the posterior wall, and as a result of it adhesions to the pancreas or other neighboring organ had taken place, with the formation of an abscess which had ruptured at the time when the pus was vomited. No such adhesions or other evidence of ulcer or old abscess were found. The pylorus and the duodenum for three inches beyond it were then examined and nothing abnormal was found. The liver and other neighboring organs were healthy. No enlarged glands were found. One small gland in the gastro-hepatic omentum was removed for microscopic examination. An incision seven centimetres long was then made in the anterior wall of the stomach parallel to the two curvatures and through this large opening successive parts of the mucous membrane were everted until I had gone over all the accessible mucous membrane. The parts that I could not evert, especially toward the cardia, were examined very carefully by my fingers introduced into the stomach. The mucous coat seemed to be much softer than usual and almost pultaceous. A small portion of the mucous membrane was then lifted with a pair of forceps and snipped out. The edges of this cut were sutured and the mucous membrane was found to be so soft and friable that several threads tore out. Even wiping it with a sponge caused hæmorrhage. The opening in the stomach was then closed by two rows of Lembert sutures, followed by closure of the abdominal wound. She made an uneventful recovery.

Whether it has any bearing upon the cause of the hæmorrhage or not, it is perhaps noteworthy that when this patient was seventeen both of her ovaries had been removed. In another case of gastric hæmorrhage, which was believed to be vicarious menstruation, mentioned to me by Dr. J. M. Da Costa, the ovaries had also been removed. I am not, however, disposed to regard the hæmorrhage in my own case as a vicarious menstruation, partly because of the enormous amount of blood suddenly lost; secondly, because the hæmorrhages never have recurred with any regularity, and, third, because there were no other phenomena resembling the menstrual molimen.

The gland and the mucous membrane removed were examined by Dr. Burr, who reported that nothing abnormal was found.

The point that I wish especially to emphasize is the thoroughness and the safety with which an extensive and minute examination of the interior of the stomach was made by an exploratory gastrotomy.

Dr. K., aged fifty-one years, first consulted me May 13, 1896, at the instance of Dr. Wright, of Erie, Pennsylvania. For six years before he saw me he had suffered a great deal of gastric distress, with a sense of weight and pressure from the pit of the stomach to the back. No tumor had ever been observed. He had lost only fifteen pounds in weight in these six years, until within the last few weeks, when he had lost about fifteen pounds more, largely in consequence of a very sudden and severe hæmorrhage from the stomach amounting to about a quart, while another pint passed by the bowel. Blood had been repeatedly vomited in small quantities since, and the stools also had shown evidence of blood. For four weeks after the hæmorrhage he was nourished exclusively by the rectum, but for a week he had been able to take a small amount of milk by the stomach. His weight was about a hundred and fifteen pounds. No tumor, but only an indistinct sense of resistance, was discovered in the epigastrium. The inguinal glands on each side were enlarged. An exploratory operation was proposed and accepted. The diagnosis wavered somewhat between ulcer and cancer. On May 28, 1896, the stomach was exposed and the entire organ was found diseased, on both its anterior and posterior walls. The stomach wall was greatly thickened and nodulated, and presented every appearance of disseminated cancer. As it was evident that no operation could be done, the abdomen was closed. Before doing so, however, a small gland in the omentum was removed for examination. I was convinced that his life would be terminated within a very few weeks. Instead of that, as soon as he recovered from the ether-vomiting, he began to take milk and very gradually an increasingly varied diet, and to gain in weight until, in four months from the time of the operation, he had gained about seventy pounds, and was able to resume the ordinary activities of life.

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* *Surgery of the Alimentary Canal*, 1896, 174.

† *Transactions of the American Surgical Association*, 1892, x, 219.

‡ *Lancet*, 1896, i, 18.

The pathologist to whom the gland was given for examination gave as an opinion that it was a case of tuberculosis; a diagnosis which seemed verified by the immediate result in the case, but four other well-known pathologists in examining the same slide pronounced it carcinomatous.

In June, 1897, the man's strength began to fail and in December of that year he placed himself again under my care. A second cœliotomy was done December 23d. The stomach was found adherent to the belly wall over a very large area. When it was exposed not a vestige of the former thickening remained, excepting at the extreme left, where a hard lump was found, the nature of which was uncertain. As this spot of hardness was reached with extreme difficulty and it was of the utmost importance to determine its character, I made a vertical incision in the stomach six centimetres long. At the cardiac extremity, not far from the œsophagus and on the greater curvature of the stomach, was an irregular nodular ring four centimetres in diameter, the edges being elevated about five millimetres above the surface of the mucous membrane. Being convinced that it was a case of cancer, I closed the opening in the stomach by two rows of Lembert sutures. The patient made an excellent recovery from the operation, but his strength began to fail, and it was soon clear that his life would be terminated. Only once did the temperature exceed 99° F., until January 7th, the fifteenth day, when it began to rise quite rapidly, and by the next day had reached 104.2°. He died that night.

A post-mortem examination revealed not only the cancerous ring discovered at the operation, but a second one toward the pylorus. That I did not discover it at the time of operation was undoubtedly due to the fact that, finding the first one, and reaching a conclusion as to its character, no further search was made. Both of the areas were circular, and were pronounced cancerous by the several pathologists to whom I gave pieces of the growth, who had examined the original specimen and pronounced it cancer. In the light of the post-mortem, I assume that the case was one of cancer engrafted on two pre-existing ulcers.

The second fact, besides the harmlessness of the exploratory gastrotomy, and one to which I specially wish to call attention, is, that though only sixteen days had elapsed from the time of the incision into the wall of the stomach, no trace of a scar was visible, even on careful examination, so perfect had been the healing of the incision.*

By the courtesy of Dr. John B. Roberts and Dr. D. D. Stewart, I also relate briefly the following case:

A man, aged thirty, without assignable cause, eighteen months before being sent to Dr. Stewart's clinic at the Philadelphia Polyclinic Hospital, November, 1896, began to have dull pain in the epigastrium, which commonly occurred after eating. Six months after the pain appeared he began to have attacks of vomiting, almost daily, but never copiously. For three or four months before seeking advice the vomiting had not usually occurred unless he himself induced it in order to relieve the distress and pain. He had never vomited any blood. The pain only became severe one or two hours after eating. He had lost thirty pounds in flesh. Though so young, there was a high grade of arterio-sclerosis, with right cardiac hypertrophy and at times small quantities of albumin and a few hyaline casts. The stomach was dilated, the inferior curvature being at the level of the umbilicus. There was resistance in the pyloric region, though this was not noticed constantly. There was absence of HCl, and absence of more than traces of pepsin and lab-ferment. Marked fermentation also took place in the stomach. Digestive leucocytosis never occurred. The diagnosis lay between carcinoma, neurosis, and a possible gumma. Dr. Roberts performed an exploratory cœliotomy in April, 1896. As nothing was apparent to the touch or sight, the stomach was opened and its interior inspected. It appeared everywhere healthy. The man made an excellent recovery from the operation. Six months afterward he was as well as ever, his appetite, digestion, and bowels in excellent condition, and he had gained twelve pounds of his lost weight. The vomiting and motor inactivity of the stomach, which were evident before operation, had been entirely recovered from.

The following case of exploration is related by Dieulafoy: †

A patient, aged twenty-two years, was suddenly seized with hæmatemesis and M. Cazin operated. He opened the stomach, and found not an ordinary gastric ulcer, but a superficial ulcerated patch. The ulcerated mucous membrane was drawn up into a fold and ligatured; complete recovery followed.

In view of the facts found in these six cases of recovery after extensive incisions into the stomach, it seems clear to me that in any case in which by the other means at our command no positive diagnosis can be reached, we are thoroughly justified in making an exploratory gastrotomy. I believe that an exploratory gastrotomy in such cases is as proper as an exploratory cœliotomy.

In order to prevent any possible septic complications in exploratory gastrotomy, and in all similar operations, it should be noted, once for all, that prior to the operation (except, of course, in cases of stricture of the œsoph-

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* Dr. D. D. Stewart, who has made a special study of this case, will report it in full in a communication to the Association of American Physicians, in May, 1898.

† *Lancet*, 1898, i, 335.

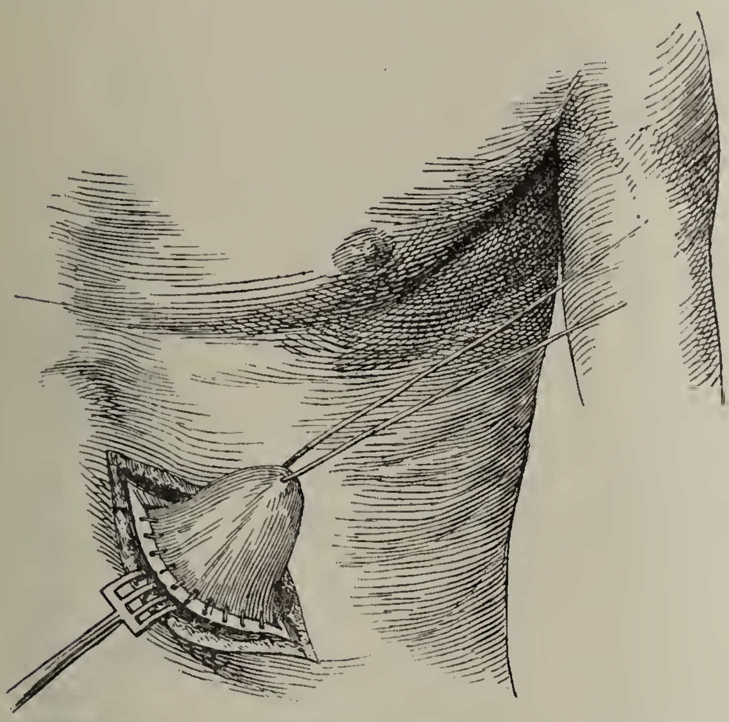

Fig. 7.—The Ssabanijew-Franck method of gastrostomy; a cone of the stomach drawn out. (Meyer.)

agus) the stomach should be well washed out, and before it is opened it should be brought out of the abdominal cavity and well walled off from that cavity by iodoform gauze. We can thus make the operation practically extraperitoneal.

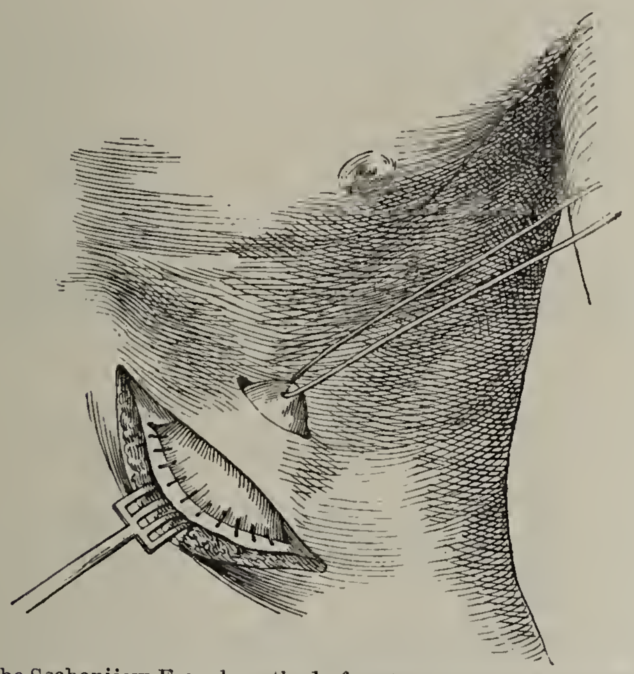

Fig. 8.—The Ssabanijew-Franck method of gastrostomy; the skin undermined and the apex of the cone of stomach drawn through the second incision. (Meyer.)

III. Gastrostomy.—Gastrostomy is done for two conditions, both of which prevent the ingestion of food through the mouth: First, for non-malignant stricture of the œsophagus; occasionally also other equivalent conditions may require it, such as a tumor outside of the œsophagus. In one case Mr. Whitehead has done it for malignant disease in the pharynx and mouth so extensive as to prevent swallowing; and ulceration or congenital closure or even absence of the œsophagus may be mentioned as conditions for operation. In two instances, Whitehead[*] and Stockton and Roswell Park[†] have done it for a diverticulum of the œsophagus. With our modern surgical methods it would seem better in the last condition to operate directly on the diverticulum.

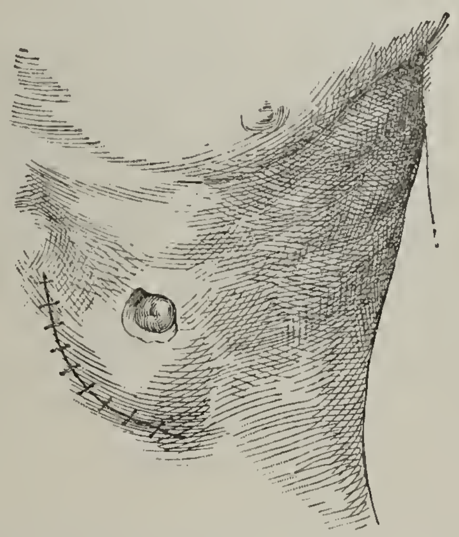

Fig. 9.—The Ssabanijew-Franck method of gastrostomy; the incisions closed and an opening made in the apex of the cone of stomach. (Meyer.)

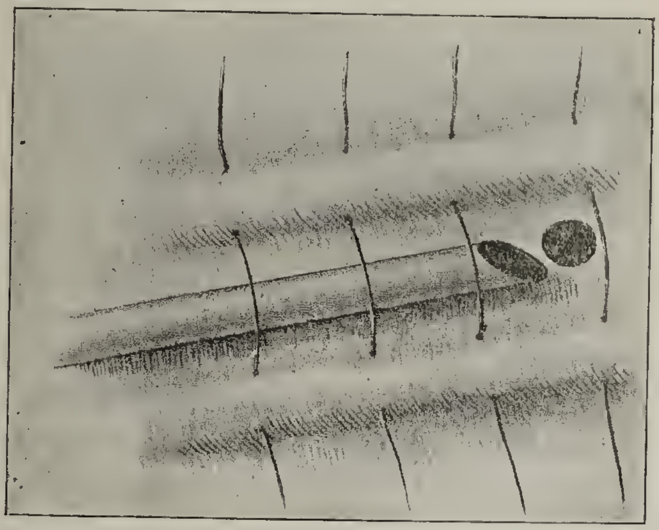

Fig. 10.—Witzel's method of gastrostomy, showing the opening in the stomach, the tube in place, and four sutures. (Meyer.)

The second, and by far the most frequent, indication is malignant disease of the œsophagus, or of the cardiac end of the stomach. Egebert[*] (or Egeberg), in 1837, first proposed gastrostomy. Watson[†] made the first proposition in English to the same effect. In 1846, Sédillot[‡] stated, and again in 1847 reiterated his belief in its advisability. On the 13th of November, 1849, he[#] did the first gastrostomy for cancer of the œsophagus. Up to 1875, twenty-eight cases had been operated on,[‖] with twenty-eight deaths! On March 3, 1875, in the twenty-ninth case, Sydney Jones had the first operative success. It is no wonder, therefore, that so late as 1885 Lagrange[△] condemned the operation as useless and dangerous, for up to 1884 one hundred and sixty-three cases had been operated on, with one hundred and thirty-three deaths, a mortality of 81.66 per cent. That the introduction of antisepsis, as well as greater skill in the performance of the operation, and the avoidance of now recognized dangers should diminish the mortality is shown by Zezas. Of the first thirty-one operations, one recovered, a mortality of 96.78 per cent. In the remaining one hundred and thirty-two operations there were twenty-nine recoveries, a mortality of seventy-eight per cent.

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[*] *Lancet*, 1891, i, 11.

[†] *International Medical Journal*, January, 1894, 94.

[*] *Norsk Mag. f. Lægevidenskaben*, 1841, 97.

[†] *American Journal of the Medical Sciences*, 1844, 309.

[‡] *Comptes rendus de l'Acad. des sci.*, xxiii.

[#] *Contrib. à la chir.*, Paris, 1868.

[‖] Zezas. *Arch. f. klin. Chir.*, 1885, xxxii, 200.

[△] *Rev. de chir.*, vol. v, 549.

Gross,* writing in 1884, however, gives a much better prognosis. Of two hundred and seven gastrostomies the general mortality was only 29.47 per cent.

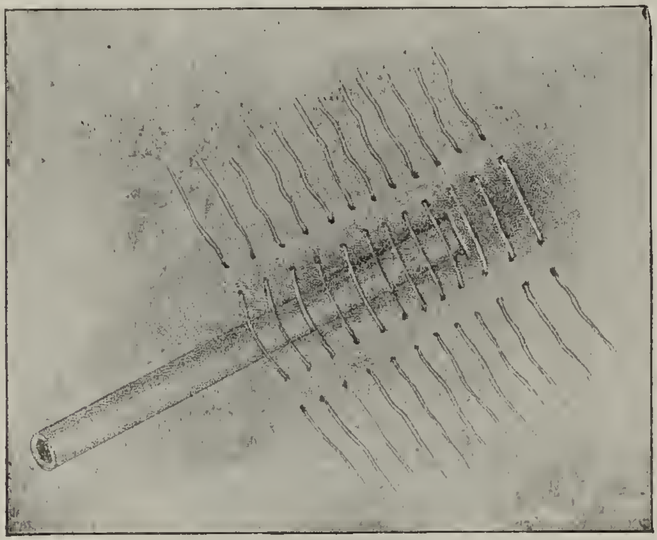

FIG. 11.—Witzel's method of gastrostomy, showing the tube inserted into the stomach and the sutures ready to be tied and bury the tube in the folds of the stomach wall. (Meyer.)

Powers † collected ninety-nine cases subsequent to Gross's table, of which twenty-six died, a mortality of only 26.26 per cent. In the malignant cases the mortality was 27.71 per cent. and in the non-malignant 18.87 per cent. It would be very fair, I think, to estimate the present mortality of malignant cases at about twenty-five per cent. or even less, and of the non-malignant probably not over ten per cent.

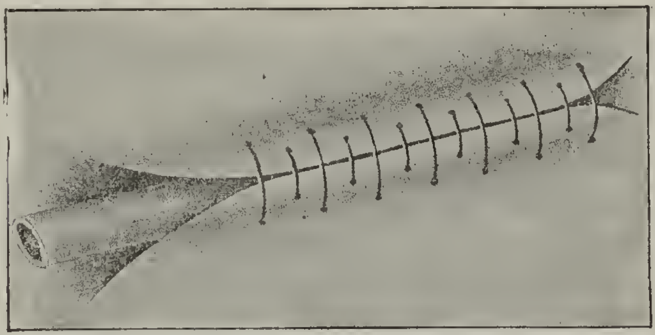

FIG. 12.—Witzel's method of gastrostomy, showing the sutures tied and the tube buried in the canal formed by the wall of the stomach. (Meyer.)

Mikulicz, ‡ in ten gastrostomies for non-malignant stricture of the œsophagus, did not lose a single case, and of thirty-four for malignant stricture lost seven, a mortality of only 20.6 per cent. What a contrast to the mortality of 81.6 per cent. of the first one hundred and sixty-three operations!

The first operations were done after the method of Egebert, and by the incision of Fenger, of Copenhagen, parallel with the left border of the ribs. The stomach was fixed to the abdominal wall, followed a few days later by a direct opening into the stomach. This opening was quite large, and was attended invariably by leakage of the gastric contents, which produced an excoriation of the skin around the opening and rendered the patient so miserable that it was doubtful whether the operation was of any benefit. Various mechanical devices, more or less elaborate, were adopted to prevent the leakage; all of them failed of their object. It is rather surprising to see in Maylard's *Surgery of the Alimentary Canal,* and in the sixth edition of Greig Smith's *Abdominal Surgery,* both issued in 1896, that this ancient and very objectionable method still seems to hold sway in Great Britain.

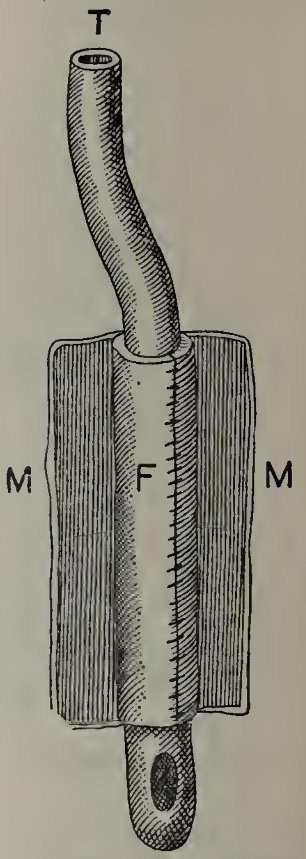

FIG. 13.—Andrews's method of gastrostomy, showing the mucous membrane of the stomach sutured over the tube.

The two directions in which improvement has been effected are, first, in doing an early operation, and, secondly, by various operative instead of mechanical devices by which leakage is prevented. As to the former, Willy Meyer * has quoted Mikulicz as advising the operation "as soon as fluids and semi-solid foods find some resistance in passing down, or as soon as the patient is visibly losing ground," which last Meyer would interpret "as soon as the scales show a steady decrease in weight," opinions in which I fully concur.

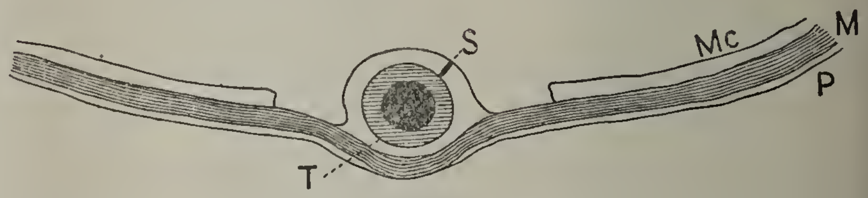

FIG. 14.—Andrews's method of gastrostomy, a cross section of what is shown in Fig. 13.

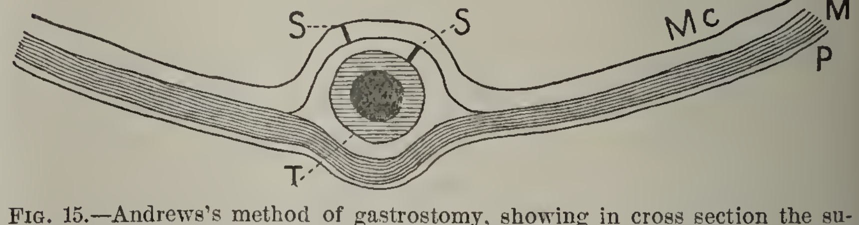

FIG. 15.—Andrews's method of gastrostomy, showing in cross section the sutured distal edges (M and Mc, Fig. 13) of the mucous membrane.

The modifications which have been introduced into the operation may be arranged as follows:

In 1886, von Hacker † made a longitudinal incision in the left rectus muscle one inch below the border of the ribs and to the left of the median line. The fibres of the muscle are separated by blunt dissection. The stomach is drawn out and fastened in the incision between the muscular fibres that are intended to act as a valve, and so prevent the escape of the gastric contents. Two or three days afterward the incision is made into the stomach. A tube is then introduced, and is either kept in place permanently or in some patients can be introduced only at the time of feeding. The method of von Hacker was a vast improvement over the prior operations of Egebert and Fenger. A further improvement was introduced by Girard, who, in order to increase the sphincteric action of the rectus, crossed the fibres of that muscle by drawing the fibres of the right side toward the left and the fibres on the left side toward the right, the tube being placed between the crossed fibres.

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* *Transactions of the American Surgical Association*, ii, 363.

† *International Journal of Surgery*, November, 1891.

‡ *Arch. klin. Chir.*, 1896, li, 9.

* *American Journal of the Medical Sciences*, October, 1894, 425.

† *Wien. med. Woch.*, 1886, 1073.

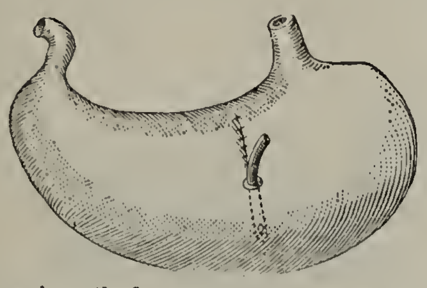

FIG. 16.—Andrews's method of gastrostomy, showing the tube *in situ*.

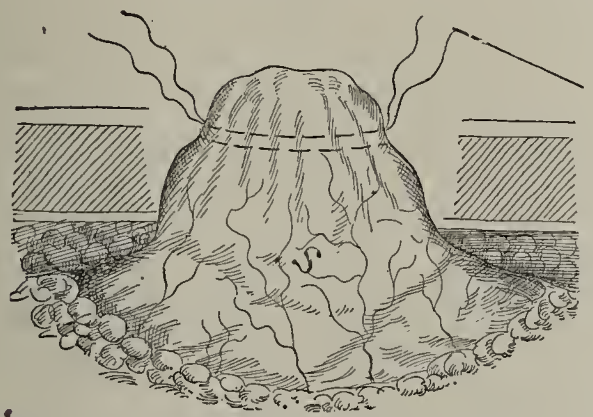

FIG. 17.—Senn's method of gastrostomy, showing purse-string sutures inserted below the apex of the cone of the stomach.

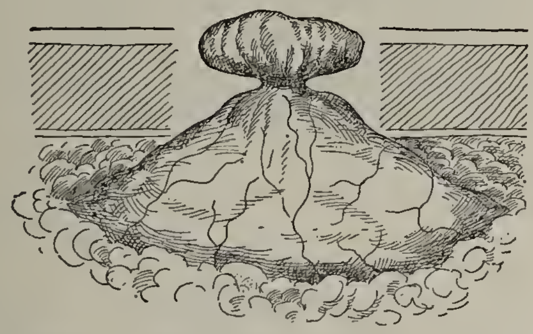

FIG. 18.—Senn's method of gastrostomy, showing the purse-string sutures drawn tight.

In 1890, Ssabanejew,[*] and in 1893, Franck,[†] both hit upon an identical new method. By this, after an oblique incision along the left border of the ribs, the stomach is drawn out into a cone about an inch and a half long (Fig. 7). A second incision is next made an inch above the border of the ribs. The bridge of skin between the two incisions is then undermined and the apex of the cone of stomach, which has already been fixed by suture at the first incision, is drawn out through the second and secured by two or more sutures (Fig. 8), and the abdominal incision is closed (Fig. 9). The apex of the stomach is opened immediately, and as it is lined by mucous membrane no adhesions will take place, no leakage occurs, on account of the obliquity of the canal and of the presence of the strip of skin, and a tube is only introduced when food is to be given. This may be begun at once. This method avoids the annoyance of the constant wearing of the tube and of leakage, two points of capital importance.

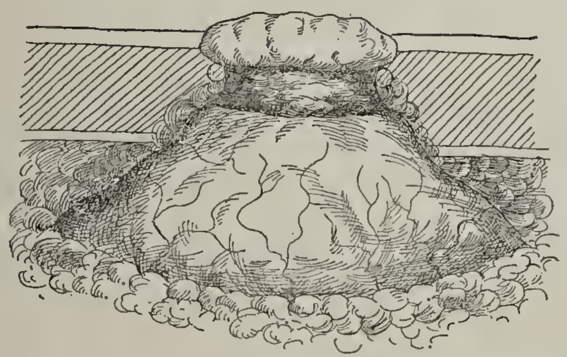

FIG. 19.—Senn's method of gastrostomy; the omental cuff applied.

In 1890, Hahn [*] published another new method, as follows: After opening the abdomen at the border of the ribs, a second incision was made over the eighth intercostal space. This was opened from within, and the stomach was drawn out through the intercostal space and fastened there. Leakage by this method, which Hahn first performed in 1887, is not wholly prevented, and necrosis of the cartilages of the ribs has sometimes followed. It is now practically abandoned.

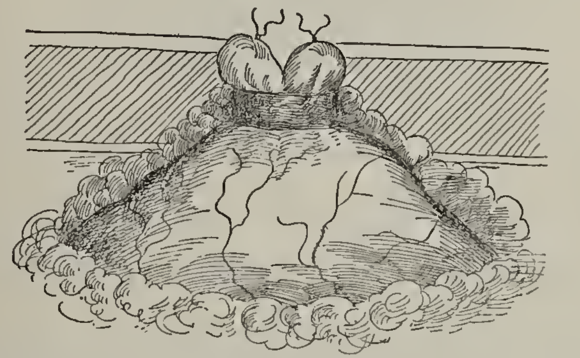

FIG. 20.—Senn's method of gastrostomy; the apex of the cone of stomach opened and inverted.

In 1891, Witzel [†] devised a new method by which a long oblique canal was tunneled in the stomach wall as follows: The abdomen being opened, the stomach is drawn out, and its margins surrounded with gauze so as to make the rest of the operation extraperitoneal. A small opening is then made toward the cardiac extremity, and a catheter or other similar rubber tube, about No. 25 F., is introduced into the stomach (Fig. 10), and five or six centimetres of the protruding portion are buried in the stomach wall by Lembert sutures (Figs. 11 and 12). The stomach is then fixed to the abdominal wall and the abdominal opening is closed. In some cases it is possible, after a time, to withdraw the tube and only introduce it when food is to be taken. In the majority of my own cases, six in number, with five recoveries from the operation, I have found so much difficulty in introducing it that it has had to remain permanently.

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[*] *Wratsch*, 1890, No. 39, and *Centralbl. f. Chir.*, 1893, 862.

[†] *Wien. klin. Woch.*, 1893, No. 13.

[*] *Centralbl. f. Chir.*, 1890, 193.

[†] *Ibid.*, 1891, 601.

In 1894 two methods originated in America. Andrews * proposed the following method: The stomach is opened by a vertical incision for about two inches. Through this incision a part of the anterior wall below the opening is drawn out, the mucous membrane alone is incised on each side of and parallel with the tube (Fig. 13), and at such a distance that its proximal edges will encircle the tube, over which they are sutured (Fig. 14). The distal edges are then brought over the tube already covered with mucous membrane and united by suture (Fig. 15). The gastric and abdominal wounds are then closed in the usual way (Fig. 16). This also requires the constant presence of the tube, and seems to me a needlessly difficult and possibly dangerous method of operating.

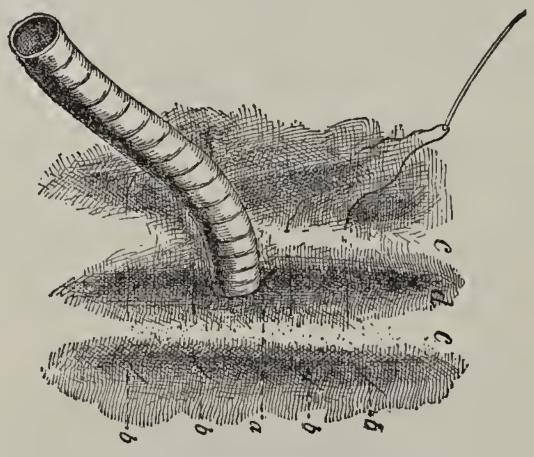

Fig. 21.—Kader's method of gastrostomy; the tube in place and the first row of sutures inserted.

Stamm † introduced a catheter vertically at a suitable place, and passed a purse-string suture through the muscular wall an inch away from the tube. This, on being tightened, drew up the wall of the stomach into a tube about an inch long, through which the rubber tube passed vertically into the stomach. I do not know of any operation done either by the author or others by this method. It resembles Kader's method in its result, and, if two purse-string sutures were used to make a longer and more secure canal, I believe would answer admirably.

In 1896, also, two new methods were proposed, one by an American, the other by a German. The younger Senn ‡ proposed the following method: After exposing the stomach and drawing it out in a cone, about two inches and a half below the apex of the cone he places two purse-string sutures of heavy catgut, including only the serous and muscular coats of the stomach (Fig. 17). These are drawn tight enough to pucker up the stomach (Fig. 18), and are then covered by an omental cuff from the greater omentum. This cuff is sutured over the constriction (Fig. 19). The conical portion of the stomach is now fastened into the parietal wound, and either immediately, or two days later, an incision half an inch in length is made in the centre of the portion of the stomach exposed, and a rubber tube inserted. The edges of the incision are now inverted, forming a circular valve, the inversion being made permanent by Lembert sutures (Fig. 20). Abbe * speaks very warmly of this method. He omits the omental cuff as useless.

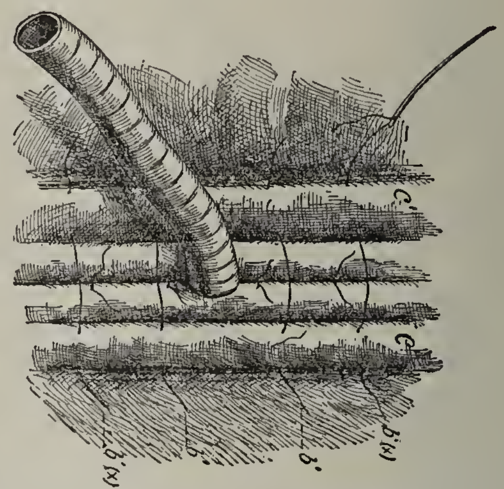

Fig. 22.—Kader's method of gastrostomy; the first row of sutures tied, and the second row inserted.

Kader † also introduces a tube vertically, and imbeds it in the stomach wall by two horizontal rows of Lembert sutures, which, like Stamm's purse-string suture, lift the stomach wall around the tube (Figs. 21, 22, 23, 24).

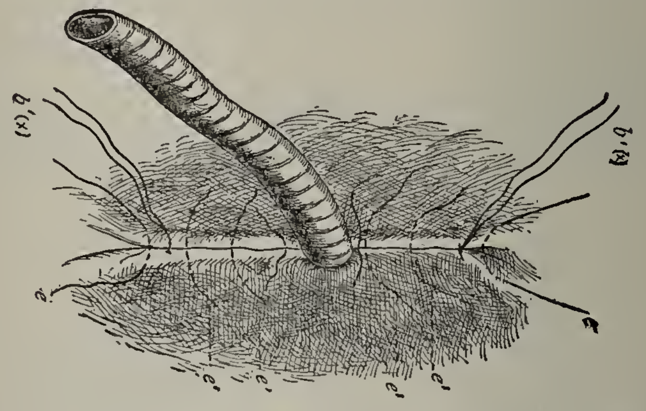

Fig. 23.—Kader's method of gastrostomy; the second row of sutures tied.

In 1896 Marwedel,‡ one of Czerny's assistants, proposed another method somewhat similar to those of Witzel and Andrews, but slightly different in technics. The stomach, after being exposed by the oblique incision, is attached to the abdominal wall, and the serous and muscular coats are incised for a distance of five centimetres (Fig. 25). The mucous coat is then perforated at the cardiac extremity and a tube is inserted into the stomach, followed by suture of the muscular and serous

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* *Journal of the American Medical Association*, May 19, 1894, 734.

† *Medical News*, September, 1894, 324.

‡ *Journal of the American Medical Association*, November 28, 1896.

* *Annals of Surgery*, 1897, xxvi, 243.

† *Centralbl. f. Chir.*, 1896, 665.

‡ *Beit. z. klin. Chir.*, xvii, 56.

coats over the tube. The suture is buried between these two coats and the mucous coat, instead of being buried in an oblique canal formed of all the coats, as is the case in Witzel's operation (Fig. 26). The external wound is now closed. Marwedel reports five operations by himself and Czerny. The first patient died the next day from inanition. All the other four recovered without trouble. It is noteworthy also that in one of the cases the operation was done under cocaine anæsthesia. The tube is easily removed and a metal tube is used only at the time when food is to be administered.

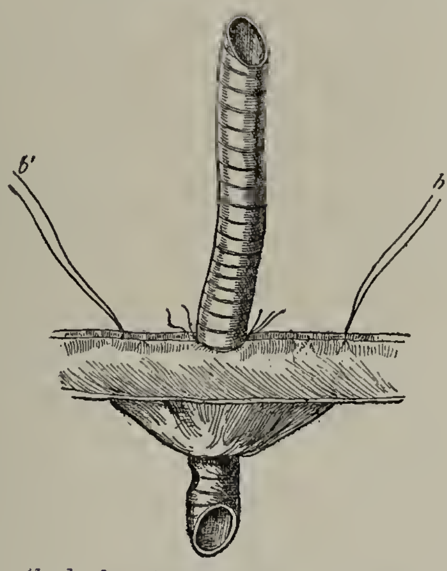

FIG. 24.—Kader's method of gastrostomy, showing the tube in place and protruding with the stomach (side view).

The ingenuity of these various operations is very striking. All of them, it will be seen, aim at the prevention of leakage.

My own experience is limited to the methods of Witzel, which I first employed, and the one of Ssabanijew and Franck, which I only became acquainted with after its publication by Franck in 1893. Both of them have given me very satisfactory results. It is evident to me, however, that the method of Ssabanijew and Franck is decidedly the better when it can be carried out, especially in this respect that it requires no tube. The tube is always becoming displaced by the dressing, which is rotated by the movements of the patient in bed, or by the friction against his clothing, and, if the tube is permanently in place, leakage through the tube must be prevented either by bending it on itself or by some sort of clamp. I have rarely found that it could be dispensed with in Witzel's operation and I have never yet seen Franck's operation require a permanent tube or give any trouble from leakage. I give it the preference, therefore, over all other methods. In some cases, however, it can not be done. If at least an inch and a half of the stomach can not be drawn through the wound, as is occasionally the case, the method of Witzel is then the one of preference.

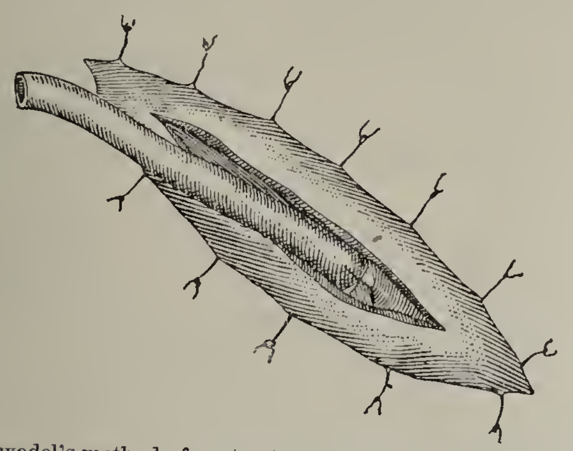

FIG. 25.—Marwedel's method of gastrostomy, showing the tube inserted through the mucous membrane.

That gastrostomy for malignant disease does not save life is self-evident, but in preventing the patient from slowly starving to death and in satisfying both hunger and thirst it is a most humane operation. It has relatively little danger and, therefore, can be commended even in desperate cases. I can not adduce better proof of this than one patient of my own who died three days after the operation, from inanition. On the morning of the day of his death, as it was evident that he could not live long, I told him that death would speedily release him from his sufferings, and I asked him whether, having passed through the annoyance of the ether and the pain of the operation, if he had it to do over again he would choose the operation, even though it did not prolong his life. "Most assuredly," was his answer, "the relief from the hunger and thirst have been such that I would cheerfully go through the operation."

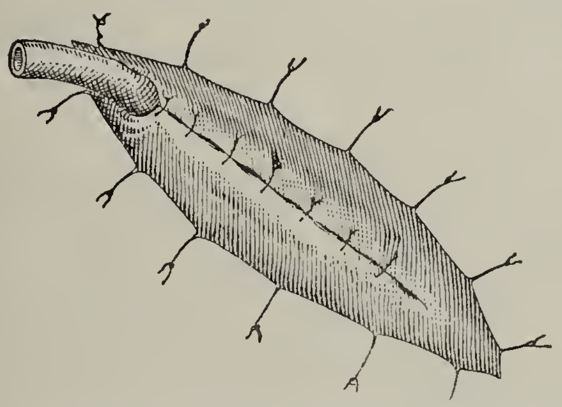

FIG. 26.—Marwedel's method of gastrostomy, showing the tube covered by suturing the muscular and serous coats over it.

NOTE.—I desire to express my thanks to Messrs. William Wood and Company, Messrs. Lea Brothers & Co., Dr. John B. Hamilton, and Mr. W. B. Saunders for permission to use illustrations from the *Medical Record*, the *American Journal of the Medical Sciences*, the *Journal of the American Medical Association*, and the *Yearbook of Medicine and Surgery*, and to the various authors also for a similar kind permission.

AN EPITOME OF CURRENT METHODS OF BLOOD EXAMINATION,

WITH DEMONSTRATIONS.[*]

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THE microscopic examination of the blood plays today a very important rôle in the diagnosis of many diseases. On that account the value of such examinations can not be overestimated. First employed by bacteriologists, this clinical aid for the detection of disease is becoming more extensively employed by general practitioners in proportion as the methods and technic are becoming simpler and better understood, and as the results are becoming more reliable and easier of interpretation. There are a number of methods in vogue which differ in detail, but fortunately are similar so far as the results obtained are concerned. · Success in this line of work depends on a tenacious application, and a more or less extensive experience. It is well known that to Ehrlich belongs the credit of having first recognized and described the various granules in certain white cells; to him also we are indebted for a classification of blood cells which he has been enabled to make by means of his tinctorial (staining) examinations. As an aid to the memory, I beg to present the following schematic diagram of blood cells:

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[*] Read before the Medical Society of the County of New York, January 24, 1898.

Classification of Blood Cells.

Blood cells.
- Red cells.
  - Non-nucleated or Erythrocytes.
    - Small or microcytes.
    - Large or macrocytes or gigantocytes.
    - Irregular or poikilocytes.
  - Nucleated or Normoblasts.
    - Mononuclear or multi-nuclear.
      - Small or microblasts.
      - Large or megaloblasts or gigantoblasts.
      - Irregular or poikiloblasts.
- White cells. (Granular white cells.)
  1. Lymphocytes.
     - Small or large.
  2. Basophilic or "mast cells"—γ granulations.
  3. Leucocytes (multinucleated) — neutrophile granules.
  4. Eosinophilic cells—acidophile granules.
  5. Myelocytes (uninuclear)—neutrophile granules.
  6. Eosinophilic myelocytes—acidophile granules.
- Plaques or Bizzozero's plates.

If both nuclear and non-nuclear red cells are of irregular shape we have a condition known as poikilocytosis, degeneration of blood cells called necrobiosis.

The red cells found in normal blood, when smeared, fixed, and stained should be round in shape and from seven to eight μ in diameter. The hæmoglobin in each cell is uniformly stained with the exception of its centre. This phenomenon depends upon the fact that the cell may be viewed on the flat or on its bipolar axis. The centre will be colorless when we look directly down upon the biconcave disc.

White Cells in Normal Blood.—Formerly it was the custom to employ the term "leucocytes" synonymously with white cells. I shall, however, use the term as one variety of white cells, just as we have the other varieties named in the above diagram. Lymphocytes are about the size of the normal red cell, consisting of a large nucleus surrounded by a thin capsule. Leucocytes are multinuclear; are larger than red blood cells. Eosinophilic cells are few in number, a half to one per cent. Plaques are present, but are visible when properly prepared. The question of the origin of the various cells found in normal blood is still *sub judice*. The most plausible theory of their origin is that they are derived from bone marrow, spleen, and from the lymphatic glands, and on this account it is customary to look to these organs as the seat of lesion in various diseases of the blood.

Before proceeding with the description of the methods of blood-staining for clinical purposes, I would call your attention to the various dyes employed:

Ehrlich has divided these dyes into the following sets: (*a*) basic, (*b*) acid, (*c*) neutral.

A basic dye is one formed by the combination of a coloring salt and an indifferent acid—*e. g.*, aniline acetate red; the aniline red salt unites with the organic acid, forming the basic salt.

An acid dye—*e. g.*, eosin or so-called tetrabromfluorescin—is one obtained by the action of phthalic anhydride upon phenols. The acid salts enter largely into its formation.

A neutral dye is one formed by combining a basic with an acid dye—*e. g.*, Ehrlich's triacid mixture described later on.

Of the basic dyes employed by me are methylene blue (Grübler), dahlia, thionin (Hoyer), orange, methylene green, and hæmatoxylon.

Of acid dyes, the ones usually employed for staining blood are acid fuchsine and eosin.

Of neutral dyes, the one usually employed is Ehrlich's triacid stain, which consists of orange, 9 to 12 or 13 c. c., acid fuchsine, 8 to 16 c. c.; methylene green, 12.5 c. c.; add water, 30 c. c.; absolute alcohol, 20 c. c.; glycerin, 10 c. c.

For ordinary clinical purposes these dyes will be found sufficient. Their solubility in water and in alcohol is of some importance to the general practitioner, inasmuch as it enables him to make his dyes properly and in shorter time. The *United States Dispensatory* furnishes the following table of solubility:

	Water.	Alcohol.	
Eosin (Grübler)...	2 per cent.	1.0	
Methylene blue...	3 per cent.	1.5	
Dahlia..........	4 per cent.		
Thionin..........	Not ascertained.	Not ascertained.	Made by dissolving the crystals in water until a sediment is formed, then allowed to stand three days. If then a sediment is present, the fluid is filtered.
Orange..........	Not ascertained.	Not ascertained.	
Methylene green..	Not ascertained.	Not ascertained.	

In the use of eosin it is advisable to use the alcoholic eosin, not the aqueous eosin; the former glistens and is dark red, while the latter is perfectly red.

Appearance of Blood when Stained with Eosin and Methylene Blue.—All nuclei of blood cells and all bacteria and parasites stain with basic dyes.

All red cells and plasma or white cells stain with an acid dye (eosin).

Lymphocytes will stain entirely blue, owing to their large nuclei; at times, however, their thin capsules stain red with eosin.

Appearance of Blood when stained with Neutral Dyes.—Hæmoglobin becomes orange in color, and the nuclei become greenish.

The granules of the leucocytes and the myelocytes become violet and the eosinophilic granules reddish.

Ehrlich was enabled to detect five different granules by tinctorial staining methods by the study of normal and pathological blood. He distinguished α, β, γ, δ, and ϵ granules. α granules are called "acidophile" or eosinophilic granules; so called because they take up the eosin, acid dye. They are larger than the neutrophile or ϵ granules, and are supposed to consist of a different form of albumin from the neutrophile granules. They are greatly increased in number, especially in leucæmia. β granules, according to Ehrlich, are larger than the α granules, and are supposed to be the progenitors of the α granules. I never was enabled to make satisfactory demonstrations of these granules. They occur in the marrow of the bone and stain with acid and basic dyes. γ granules, or "*Mastzellen*" (Ehrlich), or basophilic *cells* can only be demonstrated by a dahlia stain, such as absolute alcohol, fifty grammes; water, one hundred grammes; glacial acetic acid, 12.5 grammes; dahlia, *ad saturandum.*

Stain specimen for six hours, wash in water, decolorize in twenty-per-cent. acetic acid, wash again in water, dry, and mount in balsam. They are supposed to occur principally in leucæmia. δ granules, sometimes called basophilic granules, also occur in leucæmia; they are stained with a concentrated aqueous methylene-blue solution for ten minutes, then washed in water, dried, and mounted in balsam. These are also difficult of demonstration, and occur in the uninuclear cells. ϵ granules are neutrophile granules, and are stained with the Ehrlich's triacid mixture described above. They are stained from five to ten minutes, then washed in water, and properly mounted. They occur in normal blood, in the multinuclear leucocytes, and in pathological conditions of the blood—*e. g.*, leucæmia, where these granules generally appear at the periphery or around the nucleus of the myelocytes.

Blood-cell Nuclei.—A blood-cell nucleus consists of a network called chromatin, which is easily colored, and of a ground substance, achromatin. The principal constituent of a nucleus is nuclein, and this resembles the albumin class but is richer in phosphorus. The nuclei also contain nucleic acid, to which is ascribed a bactericidal power.

CLINICAL EXAMINATION OF BLOOD: DESCRIPTION OF THE METHOD.—The following are the methods usually employed:

I. Examination for the number of red and white cells by the leucocytometer (Thoma-Zeiss).

II. Examination for the percentage of hæmoglobin.

III. Examination for the percentage of volume of red cells (Daland's hæmatocrite).

IV. Examination for estimation of specific gravity of blood (chloroform and benzol, method of Hammerschlag).

V. Examination of staining methods.

Methods I and II.—I shall not go into the details, as they are amply described in any of the well-known books on blood examinations. I do, however, wish to state as an elementary fact that the number of normal red cells in a cubic millimetre is 5,000,000 in the male and 4,500,000 in the female. Of white cells, we find from 7,000 to 10,000 in a cubic millimetre.

According to a table given in Cabot's well-known work, the percentages of various white cells found in blood are as follows:

Small lymphocytes, twenty to thirty per cent.; large lymphocytes, four to eight per cent.; multinuclear leucocytes, sixty-two to seventy per cent.; eosinophiles, 0.5 to 1.5 per cent.; basophilic "mast cells," 0.25 to 0.5 per cent.

So far as my experience goes I have never been able to demonstrate these "mast cells" in normal blood.

Regarding Method III, I wish to state that it is of great importance. Various attempts have been made to employ the hæmatocrite as a substitute for the Thoma-Zeiss leucocytometer, but, to my mind, it deserves an altogether separate place in the clinical examination of blood. There is no doubt of the superiority of the hæmatocrite over the leucocytometer, at least for an arbitrary comparative measurement, and any one who employs both methods, or sees them employed, will come to the same conclusion. The hæmatocrite requires less time and manipulation, and its employment in connection with the electrical centrifuge furnishes a more reliable method of ascertaining the volume of red cells. For this purpose I employ a speed indicator for controlling the speed of the electric current. Having once determined the number of revolutions and time required to obtain the normal percentage of volume (fifty per cent. in normal blood) of cells, we have a standard of comparison. It is stated by the opponents of the hæmatocrite that it is unreliable in certain blood diseases in which irregular-shaped red cells occur (poikilocytosis). But it appears to me that even in the condition of poikilocytosis we usually find a decrease in the number of red cells, and that this discrepancy is counterbalanced by the larger red cells present. This same objection would be equally true for the leucocytometer.

Daland, to whom we are indebted for a valuable modification of von Hedin's hæmatocrite, gives the normal volume of red cells as fifty per cent. The fact that the results of different investigators have varied can be attributed to the hand centrifuges that have been employed, for it is self-evident that the motor force of these instruments is not a constant one. An advantage of the hæmatocrite is that it has provision for carrying two similar tubes, the one to contain some of the blood to be examined, the other to carry a specimen of normal blood for control purposes. The time consumed in estimating the normal volume of red cells is four minutes at six thousand revolutions a minute.

Regarding Method IV, which relates to the determination of specific gravity of the blood, I have now to offer one of the methods which is simplicity itself; all that is required is a urinometer graduated to 1.070, chloroform, and pure benzol. Pour enough chloroform and benzol into the urinometer receptacle to make the specific gravity of the mixture 1.059, then add to the mixture a drop of the blood to be examined; if the drop sinks to the bottom, add chloroform; if it rises to the top, add benzol until the drop becomes stationary in the centre of the mixture of chloroform and benzol; then place the urinometer in the fluid and find what it registers. This gives the specific gravity of the blood. This mixture may be employed again by simply filtering it through filter paper.

Method V is the one by stains. There are three steps of importance in this part of the work—namely, smearing, fixing, and staining.

Smearing.—The usual blood smearer is a glass slide about seven cubic centimetres and a half long, two cubic centimetres broad, and 0.3 cubic centimetre thick, edges beveled. This slide is preferable to the ordinary smearing of blood between two cover glasses. The slides are to be cleaned with soap and water to get rid of the dirt and fat, then thoroughly washed in water to get off the soap, then immersed in alcohol, taken out of the fluid without touching the flat surfaces, dried, and preserved in suitable jars. The drop of blood is obtained as follows: Cleanse the finger simply with water, then prick with an ordinary triangular surgical needle. This is best done by holding the needle obliquely, so that the periosteum is not reached. Avoiding the first drop of blood, bring the smearer in contact with the bleeding surface delicately, so that a small drop remains on the centre of the beveled edge of the smearer. In order to obtain a uniformly thin film of blood, allow the beveled edge of the smearer to remain in contact with the slide. This will insure a stretch of blood as wide as the smearer is itself. Then quickly spread the line of blood along the surface of the slide with slight and uniform pressure. It will be found that the white cells will naturally accumulate at the sides of the slide owing to their lesser specific gravity (?). The advantages of this method of smearing over the cover-glass methods are these: That the former is easier in its technics; secondly, a more uniform layer of blood is procured; and, thirdly, the specimen can be examined at once without the aid of a cover glass.

Fixing.—(1) *Formalin Method.* This method, which was first demonstrated to me by Dr. Waldstein, is simple and convenient, inasmuch as the film of blood to be examined can be at once placed over the mouth of the bottle containing the formalin before the blood becomes air dry. It is found that the blood does not shrink as readily as it would in contact with alcohol and ether, or when fixed by heat in a fresh state. The formalin solution usually employed is the following: Ten cubic centimetres of formalin (forty per cent.); thirty cubic centimetres of water. This solution will hold for about two months. A large and small wide-mouthed bottle is best employed, as a slide or cover glass can be placed easily over them.

An exposure to the formalin vapor from five to ten minutes is sufficient to fix the blood, when it will be ready for staining. (2) The vapor of one-per-cent. osmic acid is sometimes employed as a fixing agent. This agent is objectionable on account of its costliness and the readiness with which it decomposes. (3) Another method of fixing is by means of alcohol and ether, equal parts. After the blood is air-dried the slide is placed in this mixture, usually for fifteen minutes or longer, then taken out, and dried with filter paper.

A fourth method is fixing by heat. This is the original method of Ehrlich, employed in the following way: A slide smeared with air-dried blood is placed on a copper plate which is supported on a stand; it is best not to bring the slide near the Bunsen flame; it remains on the plate ten minutes and is then ready for staining. All of these methods are reliable and success with them depends on practice.

Staining.—For diagnostic purposes the single-stain method is rarely employed. Our object always is to get a double stain to bring out the nuclei, granules, and plasma in different colors. For single staining a concentrated aqueous solution of methylene blue is used, or a saturated solution of thionin (Hoyer) in thirty-three-per-cent. alcohol (stock solution). Of the latter, one part to two parts of thirty-three-per-cent. alcohol (Waldstein). For double staining, the dyes usually employed are eosin, glycerin, and hæmatoxylin, or eosin and methylene blue. Of these, the simpler is the eosin and methylene blue—eosin (Grübler), 1.0; alcohol, seventy per cent., 100.0.

For the staining of malarial blood and other parasites the eosin and methylene blue is to be preferred, but for staining granules and certain white cells occurring in certain blood diseases—*e. g.,* leucæmia—Ehrlich's triacid mixture should only be employed. A given specimen of blood is stained as follows: Drop the eosin solution on the smeared and fixed slides, allow it to remain five minutes—no more, no less, providing the blood is smeared and fixed properly—then hold the slide under a drip, thus washing the staining solution well off; then dry with filter paper. Now counterstain with the concentrated aqueous methylene-blue solution for two minutes, then wash, and dry as before, then examine.

For permanent keeping, mount in balsam. Ehrlich's triacid stain is employed as follows: Having the smeared and fixed blood on the slide, the mixture is added and allowed to remain for five to ten minutes, the specimen is washed well and dried with filter paper, and is then ready for examination.

Malarial Disease.—The various forms furnish one of the most fruitful fields for blood examinations. The method by blood examination has entirely superseded for diagnostic purposes the method that formerly prevailed—namely, the administration of quinine. So far as the type of malarial fever that is endemic in this city and vicinity is concerned—the tertian—the blood test is positive, for we can always demonstrate this particular malarial organism in the peripheral circulation. For the practical demonstration of the parasite it is not essential to examine the blood during the chill stage, as has been customary. Plasmodia have often been found by me during the period of intermission. In my experiments I have most frequently found the organism during the height of the fever. It is during the fever state that we find the spore-forming parasite, and this latter supplies the means of distinguishing between the tertian and other types of malarial fever, even in the absence of a clinical history. The spore-forming parasite, in contradistinction to the sterile form of the plasmodium, requires that the treatment be continued intermittently over a period of about six months in order to allow the spore to develop into the regular plasmodium, as the specific action of quinine is exercised only on the plasmodium and not on the spores.

In the diagnosis of malarial disease an important point is whether the patient has been previously exposed to the malarial poison or whether the present attack is the first of the kind. It is known that any number of attacks do not render the system immune; on the contrary, they predispose it to subsequent attacks. The quartan and crescent (æstivo-autumnal) or pernicious types are, as a rule, imported into the city. Osler states that the line of division between the tertian and the quartan and crescent is the Chesapeake Bay. Before Osler's line of division was declared I never succeeded in distinguishing between the various forms of the plasmodia, but after the geographical distinction was drawn I knew I had to seek for the quartan type in some locality entirely remote from this city, especially as no form of quartan ever came under my observation here. For the first specimen of blood from a patient suffering from the quartan type of fever I am indebted to Dr. J. A. Dibrell, of Little Rock, Arkansas. An examination of this specimen convinced me of the importance of the diagnosis between the different forms of plasmodia. In the plasmodium of the quartan type the red cells do not appear swollen, the parasite itself appears smaller, the periphery is generally pigmented; its most characteristic feature is that it has fewer spores than the tertian, numbering about seven to eleven in the quartan and fifteen to twenty in the tertian. The crescent form is of a semilunar shape, hence its name; it stains no differently from the others, and is not endemic in this section of the country.

The malarial organism must be distinguished from (*a*) nucleated red cells, (*b*) degenerated red corpuscles, (*c*) plaques, (*d*) precipitation of dye, (*e*) fungi developed in the aqueous solution of methylene blue. A point of practical importance when staining for the malarial organism is always to be sure of finding the characteristic brown pigment in it. Many observers describe the flagella in connection with the organism, but I never have been able to demonstrate them in the tertian type, as it occurs in New York and vicinity. I believe that malarial disease is endemic in New York and its suburbs, especially in the vicinity of the river fronts. I here submit a list of cases of fever of the tertian type, together with the locality where the disease was acquired, in all of which blood examinations were made with positive results: Staten Island, three cases; Cornwall-on-the-Hudson, five cases; Astoria, Long Island, four cases; Fresh Pond, Long Island, one case; Pennsylvania Mine, one case; Fort Lee, N. Y., one case; Croton Dam, one case; Navesink Highlands, N. J., four cases; Van Cortlandt Park, N. Y., one case; Union Avenue near One Hundred and Fifty-fifth Street, New York, one case; East One Hundred and Seventeenth Street (First Avenue), New York, one case; East One Hundred and Sixteenth Street (First Avenue), New York), one case; East One Hundred and Third Street (Lexington Avenue), New York, one case; East Seventy-fourth Street (Second Avenue), New York, one case; East Fifty-fifth Street (First Avenue), New York, one case; East Forty-eighth Street (Second Avenue), New York, one case. Total, twenty-eight cases.

METHOD OF STAINING SUSPECTED MALARIAL BLOOD.—The blood smeared in the way described above may be fixed at once by formalin vapor, or, when air-dried, by alcohol and ether or heat, or the fixing process may be postponed for some time. The specimen is stained with eosin-alcohol solution for five minutes, washed well in water, dried with filter paper, then counterstained with concentrated aqueous methylene-blue solution for two minutes, washed again in water, dried with filter paper, mounted in balsam, and examined with an immersion lens. As a rule, the plasmodia are found in the red cells, and are stained of a light bluish color, of various forms, depending on the stage of the disease. They have a characteristic small, brown, granular pigment in the sterile form, whereas they are clumped together in the centre or periphery in the spore form. The terms "hæmatozoon" and "hæmosporidion" are in use as synonyms of plasmodium, also "oscillaria" (Laveran), "hæmamœba." The crescent form is called, after its discoverer, *Laverania malariæ*. A very important point in the microscopic diagnosis of malarial disease is that the blood is in a state of "hypoleucocytosis," used in contradistinction to "hyperleucocytosis," which occurs in some of the infectious diseases—*e. g.*, pneumonia. In chronic malarial poisoning we seldom find the plasmodium present; the appearance of the blood, however, corresponds to that found in the severe forms of anæmia.

Anæmia.—In this disease, no matter what the character or cause may be, the principal microscopical changes noted are the following: The number of the red cells is diminished, as shown by the hæmatocrite or leucocytometer, and they lose partly their rouleaux appearance. The decrease in number being in proportion to the severity of the anæmia, the form of some cells will be marked by certain changes, as noted best by the stain; thus we may find crenated corpuscles or vacuoles in the cell substance, due either to decomposition of the red cell (necrobiosis) or to an absence of hæmoglobin. We may have, however, a decrease in the number of red cells and yet have a normal percentage of hæmoglobin. If stained properly, some cells will be paler on account of diminished hæmoglobin; again, other cells will be markedly changed by reason of their taking up several stains, a condition styled "polychromatophilic." The white cells, as a rule, are not changed; at times, however, we may have leucocytosis.

Chlorosis.—In this affection we may find no decrease in the number of red cells, but a decided absence of hæmoglobin. Poikilocytosis is rare; the leucocytes are seldom increased but frequently decreased in number; the plaques are increased. The rouleaux form is lost. So far as the staining properties of chlorotic blood are concerned, we find the red cells do not take up the eosin so readily, owing to the absence of hæmoglobin. In severe forms we may find nucleated red cells and large leucocytes with neutrophile granules.

Pernicious Anæmia.—The microscopic changes of the unstained blood cells are the following: An unusual paleness—even the fresh blood as drawn from the finger showing the change; the number of red cells is markedly decreased. Plaques, few or none. The stained blood shows poikilocytosis extremely marked, the cells being of many shapes and sizes. Macrocytes and nucleated red cells, depending upon changes in the blood-generating organs, are found, the latter due to the severe form of anæmia. The microscopical diagnosis between primary and secondary pernicious anæmia is made by noting that in the primary form we have many more nucleated red cells.

Pseudo-leucæmia (*Hodgkin's*), *Anæmia Lymphatica.*—In this disease the microscopical examination of the blood furnishes positive results. In the advanced forms the changes are those of the anæmic blood; otherwise the blood appears normal. This is in marked contrast to the changes found in the blood of true leucæmia described below, and this fact furnishes a clew to the diagnosis between leucæmia and pseudo-leucæmia.

Leucæmia.—It is usual to speak of three varieties: the splenic, the myelogenic, and the lymphatic. While this discrimination may be possible from a clinical standpoint, it can not be substantiated by our microscopical findings. The changes of the unstained blood are a decrease in the number of the red cells and in the quantity of hæmoglobin. The plaques are supposed to be increased in number. The staining properties are characteristic and even pathognomonic of this condition. We find a marked increase of lymphocytes, especially in the lymphatic type of this disease; in this form we also find few myelocytes and few nucleated red cells. In the spleno-myelogenic type I have found a great number of myelocytes, a great increase of leucocytes, and of eosinophilic cells. Another characteristic feature is the presence in moderate number of "*Mastzellen,*" with their γ granulations when stained with dahlia.

Hæmophilia.—Blood examinations show hardly any changes. If there have been profuse hæmorrhages we have the changes found in anæmia.

Purpura. — Morbus maculosus (Werlhofii). No changes other than those of anæmia.

Scorbutus.—Here we find the same as the preceding, plus poikilocytosis and the presence of nucleated red cells.

There are certain other conditions, such as leucocytosis, hyperleucocytosis, and hypoleucocytosis, whose names sufficiently indicate the microscopic findings. Besides these conditions depending on alterations in the blood constituents, we sometimes meet with parasites, such as the *Filaria sanguinis hominis,* the spirillum of Obermeier (relapsing fever), and the *Distoma hæmatobium* (Bilharzii); of bacteria, bacilli of anthrax, tuberculosis, glanders, *grippe,* typhoid fever, and tetanus; also streptococci, staphylococci, diplococcus lanceolatus, gonococcus, and *Bacterium coli commune.*

Summary.—I. Success in the examination of blood is the result of experience.

II. The best stain for blood parasites, as in malarial disease, is the double eosin and methylene blue.

III. For staining granules in white cells, Ehrlich's triacid stain is to be employed.

IV. The hæmatocrite is more convenient than the leucocytometer and gives as good results; it deserves a separate place in the clinical examination of the blood.

V. The type of malarial fever endemic in New York and suburbs is nearly always the tertian. The quartan type and the crescent form occur at a great distance from the city.

VI. The microscope enables us to distinguish between the various types of the blood diseases.

220 EAST ONE HUNDRED AND SIXTEENTH STREET.

"Give it a Name."—"What's the matter with him, doctor?" asked the worried father. The young physician took another look at the boy's tongue, felt his pulse again, noted his temperature, and proceeded to pour out some medicine. "I've forgotten the technical name for it," he replied, "but it ends in 'itis.' I'll fetch him out of it all right."—*Chicago Tribune; American Dental Weekly,* April 28th.

THE POWER OF RESISTANCE.

By MATTHIAS L. FOSTER, M. D.,
ASSISTANT SURGEON, MANHATTAN EYE AND EAR HOSPITAL.

It seems almost incredible to the student of medicine to-day that within the memory of the oldest practitioners it was considered good practice to withhold nourishment from a fever-stricken patient. A better understanding of disease has convinced the profession that the theory upon which that practice was based was fallacious, and has demonstrated the necessity of maintaining or improving the nutrition of the bodily tissues. We must acknowledge, however, that our fathers' dread of food in cases of fever was not without cause. The ingestion of such food as would under normal conditions contribute toward strength and nourishment they found to be disastrous, because the agencies for the proper preparation of that food were deranged by the existing disease, and because this, in turn, was exacerbated by such demands made upon these agencies. In such cases an urgent demand on the part of the tissues for a nutritive supply is coincident with a serious impediment to the entrance of nutrition by the usual route.

Another condition with which we meet is one of passive wasting away or breaking down of tissue without the presence of active inflammation, at least to a degree competent to explain the destruction, and not associated with serious derangement of digestion. In both of these conditions there is one common factor, a loss on the part of the tissues of the power to successfully resist the attacks made upon them by destructive forces.

It may be considered a poetic rather than an exact picture of the contest ever being waged in the human body between the forces of life and death to describe it as a warfare between an invading army of destructive organisms and a corps of microscopic defenders; but even if this is so, it presents the subject in a form the mind can easily comprehend, a form practically if not literally true. In perfect health this contest results in the destruction of the invading host and a failure on its part to maintain a foothold in the body; but when the defenders yield, their failure of strength is contemporaneous with a local or a general entrance of disease. In this contest, all that any physician can do is to "assist Nature"—in other words, to re-enforce the defensive power of the system and to hope that that power will eliminate the disturbing force. Such is the practical aim of all therapeutics, whether it is the use of antipyretic drugs or of cold water to reduce an abnormally high temperature and secure a more favorable condition for resistance to disease, or the use of sorbefacients whose action shall aid in the removal of exudations and deposits, or the use of germicidal remedies to assist in the destruction of the invading micro-organisms, with some little danger of involving friend and foe in the slaughter. Frequently, with such assistance, the resisting power rises superior to the invading disease and the patient recovers, but sometimes the disease still proves the more powerful and the patient sinks. Help is needed in the way of re-enforcements to the weakened defenders to increase their energy, to supply the places of the fallen, and, in turn, to be swept away in the conflict. This help must come from nutrition, Nature's means of raising the power of resistance; and the problems which confront us are to determine the particular elements of nutrition which are most needed to recruit the strength of the tissues and how to assist those chosen elements to gain access to the place where they are needed.

In the determination of the elements of nutrition most needed, it is clear that where there is a breaking down or wasting of tissues those nutritive elements are most needed which serve not only as sources of energy, but also to replace the exhausted constituents of the body, a class which, according to Bunge, includes only the proteids and the fats. A larger proportion of one of these elements is needed in such cases than in health, as compared with carbohydrates, gelatin, and oxygen, which serve as sources of energy, or of water and the inorganic salts, which serve only to repair the waste of tissue; but all of these classes must be represented in a properly constituted food. When there is thus a special call for the first class of food elements as an aid to the resisting power, the choice may perhaps be determined by an examination of the excretions. An excessive loss of nitrogen indicates the need of a proteid supply, and experience has shown that in such cases fats are not well borne. On the contrary, when the excretion of nitrogen is slightly if at all increased, fat has proved of great value as a direct support to the tissues. The free use of cod-liver oil frequently induces healing of an indolent ulcer of the cornea which is intractable to local treatment and threatens the integrity of the eye; it may save the life of a marasmic child, and for many years has been a valued food of tuberculous patients.

If the problem to determine the needed elements to support the failing strength of the tissues is not easy, still less so is the second, to place in position for assimilation these elements when ascertained. We do not know how to directly influence absorption, we do not know the nature of the changes which take place in nutrient material after absorption and before assimilation, and we are ignorant of any method by which to either affect these changes or directly influence assimilation, but all these things need to be known before a truly scientific administration of the elements of nutrition to the needs of a diseased body is possible. The nearest approach we can make to our object is to prepare our material for absorption and bring it in contact with the mouths of the absorbents. When the usual avenues for the transmission of nutrition appear to be choked, or for any reason incapable of transmitting the amount needed to supply the demands of the system, other absorbents, such as those of the skin and rectum, may be at least temporarily employed, and, when the hindrance appears to be in the impairment of the digestion, we may artificially digest proteid food so as to render it chemically in the proper condition for absorption, and then cause it to be brought to the mouths of the absorbents of the intestinal tract. Inunctions of cod-liver oil furnish the system with a greater amount of fat than could practically be obtained through the intestinal tract in the same length of time, and their efficiency in recruiting the strength of patients whose tissues seemed simply too weak to maintain the struggle is very marked.

An appreciation of the demand of exhausted tissues for nutrition has turned modern therapeutics greatly in this direction, and commercial enterprise has furnished us with many emulsions of cod-liver oil, each of which claims to be less nauseous than any other, and with predigested foods, of which liquid peptonoids are a good example. Each of these commercial products is based on the supposed need of the diseased tissues of the human body, yet they differ widely. The value of the first group is principally in the fat it contains, yet at least one representative claims to present the "active principles of cod-liver oil *without the grease*"; while that of the second is to be found chiefly in the combinations of predigested proteids and carbohydrates. According to the quotation already made from Bunge, both groups furnish food elements which act as sources of energy as well as replace exhausted constituents of the tissues. If so, they furnish us with materials from which to choose according to the waste of the tissues and the proportionate loss of their elements, as shown in the excretions. But each individual of these commercial products seems to claim every advantage possessed by every other, with a few additional qualifications of its own, and in the mass of claims constantly forced upon us we are apt to become weary, if not to reject the whole subject as humbug, and turn to milk alone as Nature's food, one which presents in an almost ideal form the necessary elements of nutrition. But we can not rest there. We are confronted with the fact that milk is a germ carrier, and so, when we give this to our patient, we may be sending recruits to the service of the enemy. In large cities the presence of impurities or of chemical changes is very possible, and its rejection by the stomach or its fermentation in the intestine from any cause whatever does not tend to promote the strength of the patient. Artificial digestion of the milk obviates some of these objections, but imparts a flavor which to many is nauseating, and therefore to be avoided. When this is the case, we are constrained to seek the help we need from artificially prepared foods. In making our choice, the taste, which certainly does appear to have an effect on digestion, and possibly may have on the action of the intestinal absorbents also, must be considered. Any attempt to improve the taste of cod-liver oil by removing the fat is to destroy its efficiency as a fat furnisher, but whatever emulsion best conceals the nauseous taste of the oil without injury to the oil itself is, other things being equal, preferable. The same remark is applicable to peptones, which are bitter and offensive to the palate. Combinations of powerful aromatics are used for this purpose in commercial preparations, and thus the taste is rendered agreeable.

Briefly, then, when the resisting power of the tissues is too weak for the encroachment of disease, help must be sought in nutrition; the class of food needed, whether to supply energy, to rebuild the worn-out tissues, or for both purposes, should be determined; the evidence of the excreta, as to the need of special nutritious elements, should be considered; the most efficient method of administration should be chosen; and, if this is by the mouth, the taste should be rendered as pleasant as is compatible with the integrity of the nutritious elements.

THE NEW TREATMENT OF PNEUMONIA WITH DE RENZI'S SERUM.

By ANTONIO FANONI, M. D.

ALL those interested in medical science, especially in the recent applications of serum therapy, have probably noticed the accounts, lately published in the American papers, of the discovery made by Professor de Renzi and Professor Pane, of the Royal University of Naples, of a serum for curing pneumonia.

The names of the two illustrious professors attest the genuineness of the discovery, but because of the frequent false impressions in regard to several so-called discoveries in medical science of late years, the accounts may have been accepted with a certain amount of incredulity.

Nevertheless, it is true that an antipneumonic serum has been discovered, and scientific Italian reviews recently published give us such particulars about it that, in the interests of science and of patients, I think it useful to submit them to the most serious consideration of physicians and of the public.

Before entering more fully into the details of the discovery of this antipneumonic serum, as related in the *Gazzetta degli ospedali e delle cliniche,* Naples, February 13, 1898, it is necessary to state first that pneumonia is caused by the *Bacillus lanceolatus,* which was discovered by Fränkel. This micro-organism is usually found in the mouth and in the breathing passages of healthy subjects, but sometimes it loses its innocuousness and causes the disease. The reason of this is still unknown.

Some scientists believe that the bacillus, in the ordinary conditions of its life, does not possess sufficient toxic power to cause the disease; others, including Professor de Renzi, believe that the bacillus, in the normal condition of the human subject, can not pass certain limits; that in other conditions, such as those determined by traumatisms and infectious and contagious diseases, it passes these limits, and so becomes an active agent in the causation of pneumonia. Therefore, its presence in the mouths of healthy subjects and the possibility of its penetrating the human body warrant preventive treatment. This naturally consists in the disinfection of the mouth, which should be practised by every one, especially by those who have suffered with pneumonia. For this purpose Professor de Renzi recommends a solution of corrosive sublimate in the proportion of 1 in 5,000, or a solution of fifteen grains of salicylic acid in fifteen ounces of water.

After the disease has developed, direct treatment becomes necessary, and the two following very important rules from a hygienic point of view are indicated: 1. Keep the air of the sick room pure by keeping a window open day and night, as it is injurious for the patient to breathe air that has become vitiated. 2. The patient should be properly nourished. Although the fever has diminished the digestive power, the organism needs repairing, and the strength should be maintained as much as possible. Therefore, it is well to administer daily a pint and a half or two pints of milk, some eggs, and a little broth.

Regarding the treatment of pneumonia, up to the present time every physician had his own specialty. In the clinics of Naples ethylic alcohol was successfully used, but after the discovery of Fränkel's bacillus it was found that the alcohol had no power to kill that microorganism.

Since then several scientists have made experimental researches regarding an antipneumonic serum, notably Klemperer, Emmerich, Fawitzki, and Behring, in Germany, and Foa, Carbone, Bonome, Belfanti, and others in Italy. But the serum obtained by them was so weak, and could be obtained only in such small quantities, that it was not sufficient for the purpose. The merit of obtaining a powerful serum in sufficiently large quantities to be used in the clinics belongs to Professor de Renzi and Professor Pane, of the Royal University of Naples.

There is not to-day a prominent physician who can afford to ignore the results of the serum treatment. The most skeptical, in the presence of facts, are obliged to admit the admirable curative power of Behring's serum in diphtheria, of Maragliano's in consumption, and of Sanarelli's in yellow fever. Those who do not believe in serum therapy at the present time do not understand it.

For the laity it is sufficient to state that curative serum is not obtained from animals which have a natural immunity against the specific disease to be cured, but from animals whose immunity has been artificially produced.

Professor Pane inoculated various animals with pneumonia bacillus, and from them he obtained large quantities of a powerful serum.

After a great number of experiments he submitted the serum to the Medical and Surgical Academy of Naples to be tested. Professor Armanni, Professor de Giaxa, and Professor Boccardi were selected by the academy to report upon it. After severe tests they found that the serum gave even better results than those modestly claimed for it by Professor Pane. Afterward, experiments on men were undertaken to establish the absolute innocuousness of the serum. Two hundred cubic centimetres of the serum were injected in some cases in twenty-four hours without any inconvenience.

In the year 1894 to 1895 two patients suffering from pneumonia were admitted to Professor de Renzi's clinic and were treated with the serum with excellent results. In the year 1895 to 1896 fourteen patients were treated with the serum, and only two died. In the year 1896 to 1897 this treatment was again used in fourteen patients, and only one died. This year two patients have been subjected to the serum treatment and cured. In all there were thirty-two patients treated with this serum, twenty-nine of whom were cured and only three died. Regarding the latter, the autopsy made by Professor Schrön revealed the fact that these patients had other diseases of a fatal nature, and they could probably have been saved if they had been brought to the clinic at an earlier date.

This serum treatment increases the strength and rapidly diminishes the fever to such an extent that, in one case which came under Professor Rossoni's observation, there was no fever observed on the third day.

Professor Maragliano experimented with de Renzi's antipneumonic serum upon five patients and with successful results. He also wrote to me, in answer to a request for his opinion about de Renzi's serum, that the results of the experiments showed the real influence of the serum on the course of the disease.

In view of these results, I believe that de Renzi's serum may be considered as a remedy of undoubted efficacy, and that it is manifestly indicated in all diseases caused by Fränkel's bacillus—namely, epidemic cerebro-spinal meningitis, pleurisy, pericarditis, peritonitis, the arthritis of pneumonia, etc.

I have been so much encouraged by the results of the experiments made by the most prominent physicians of Italy that I tested the serum in the case of a lady who suffered from a grave form of pneumonia in the inferior lobe of the left lung. Her temperature was 104° F., and there were dyspnœa and delirium when I saw her on the fourth day after the onset of the disease. Two injections a day, of ten cubic centimetres each, were given until seventy cubic centimetres in all had been administered. A few hours after the first injection the patient began to feel a little relief; the fever gradually diminished, and on the ninth day entirely disappeared. From the first injection the disease became modified little by little and lost its most serious symptoms, and the patient is now convalescent. Regarding the hygiene and treatment employed, I followed exactly the rules laid down by Professor de Renzi.

If this antipneumonic serum has, perhaps, but little efficacy as a preventive remedy, it certainly has a great power as a direct cure, and I am glad to add this experiment to others which have been made in Italy. I am also very glad that the honor of this discovery belongs to an Italian clinic, and especially to that clinic where I studied modern therapeutics.

66 West Tenth Street.

A SUGGESTION TO PHILANTHROPISTS.

By LELAND COFER, M. D.,
U. S. MARINE-HOSPITAL SERVICE.

In this age, when rich men do so much charitable work, it is surprising that there is so little variety to it; indeed, a great part of it is not charity at all, for too frequently the objects of it become lazy and lose the pride and self-reliance which constitute the basis of character in man. Distress is born of certain antecedents and causes, and therefore it should only be treated after making a study of these causes and trying to remove them, and then producing a condition incompatible with their reproduction. A charity which attempts to relieve distress in any other way is not charitable; in other words, it is a relief which does not relieve. Pulmonary tuberculosis, which destroys annually thousands of lives, and against which there is so much attempted legislation with a view to segregating, isolating, and quarantining the people suffering from it, offers a vast field wherein rich men may find ample chance to do an untold amount of true charity. Pulmonary tuberculosis attacks persons whose vital resistance has been lowered to a certain point. Whether this lowering of resistance is due to atavistic influences or not is immaterial in this connection, for it is sufficient for us to know that to relieve distress of this sort it is necessary not only to elevate this resistance but to hold it there. If a poor clerk, who perhaps has a wife or mother dependent upon him, becomes infected with tuberculosis, it is not charity to place him in a hospital and support his family for him, for at that moment he becomes an object of pity and begins at once to lose the hope, grit, and self-respect which are not only essential to recovery from tuberculosis, but essential to life. The way to render such an unfortunate man a true charity is to put him into surroundings where the climate will not only raise this lowered resistance, but enable him at the same time to earn a living and support his family. The very hope which such treatment would inspire in the breast of a man who has given up all idea of doing anything more in this world, and is secretly grieving over the trouble he is sooner or later to cause his friends, would act as a tonic and tissue builder the like of which no earthly chemist could compound. If our rich men and women, while they are bequeathing large amounts to colleges, libraries, monuments, art galleries, and the like, would place a certain sum aside for a fund for the temporary relief of consumptives in a camp or farm bearing the name of the giver, and located in some warm and friendly climate, such as that of southern California, what more everlasting and worthy monument of their philanthropy could they leave? Suppose some man should donate $100,000 for such a purpose, let us see what could be done with it. First of all, $70,000 of it should be invested in bonds in order, if possible, to net five per cent. of the amount ($3,500) each year for running expenses. Taking the yearly ration allowance ($100) of the United States Navy as a basis, twenty patients could be fed at an annual cost of $2,000. This would leave $1,500 each year for wages of cook and workingmen, and other miscellaneous expenses. The remaining $30,000 of the donation could be invested in a ranch or farm equipped with suitable houses for the patients, and the implements, cattle, horses, sheep, poultry, etc., necessary to placing said farm on a self-sustaining basis. All work could be divided up between the patients, and a certain percentage of the net receipts divided between them at the end of the year, and the remainder of the receipts used for improvements and repairs. As there are few cases of tuberculosis which, if taken in their incipiency, could not be sufficiently improved in one or two years to warrant their discharge from the farm in order that they might earn their own living in the neighborhood of the locality which had proved so beneficial to them, there would be vacancies constantly occurring which could be filled by new patients. Of course, a well-appointed physician should be placed in charge of the whole institution, not only to treat the patients, but to make investigations with a view to possibly discovering a cure for the disease, and publish the result of such investigations in the form of statistics. As any physician, to be qualified to properly and economically run such an institution, must have both executive ability and the peculiar knowledge of such work which can only be obtained by experience, it would be a decided advantage if some disabled officer from one of the medical services of the United States, such as the Marine-Hospital Service, could be secured for the position of superintendent. If this could be accomplished, the camp would have a medical and executive officer of experience who would receive his pay from the public service from which he was loaned, and be equipped by his service with the bacteriological and other appliances necessary to his investigation. Although, as is obvious, this brief description fails to go into the possible difficulties attendant upon such an undertaking, yet it fails also to describe the amount of good both to the patients and to science which might accrue from some man deciding that he would donate $100,000 for the purpose of giving at least twenty men a new lease of life.

AN ADULT MALE WITH FOUR NIPPLES.

By THOMAS J. YARROW, Jr., M. D.,
PHILADELPHIA.

Jacob R., aged thirty-seven years, entered the Medical Dispensary of the Hospital of the Protestant Episcopal Church (service of Dr. Ketcham) suffering from chronic bronchitis. On physical examination it was noticed that he had four nipples, two in the normal position, and in addition one on the left side at the upper border of the sixth rib, about a quarter of an inch within the nipple line; another on the right side in about the same position as the latter. The lower nipple on the right side was not as well developed as the others. The patient had no knowledge of any member of his family having a like peculiarity. The rarity of such cases seems to warrant the reporting of this one.

Therapeutical Notes.

Grindelia Robusta in the Treatment of Cardiac and Pulmonary Affections.—Huchard (cited in the *Journal de médecine de Paris* for April 10th) remarks that in cases of emphysema grindelia facilitates the respiration and expectoration. In simple hypertrophy of the heart and in dilatation it has all the advantages of digitalis without any of its drawbacks. It relieves pulmonary congestion and the palpitation associated with cardiac hypertrophy, emphysema, asthma, and incipient tuberculous disease. He gives the following formula:

℞ Tincture of grindelia	30 parts;
Tincture of convallaria	10 "
Tincture of squill	5 "

M. S.: Fifteen drops three times a day.

Calcium Sulphide as a Depilatory.—Calcium sulphide, which is perfectly harmless to the skin and does not irritate abraded surfaces, was recommended by Dr. A. W. Brayton as a depilatory at the Section in Cutaneous Medicine of the American Medical Association, 1897. Dr. Brayton states (*Journal of the American Medical Association*, April 16th) that it "can be made by heating a granulated mixture of plaster of Paris (calcium sulphate) with granulated wood charcoal (to take off the oxygen). A high temperature is necessary and it is best obtained by means of gas. A muffler is used—*i. e.*, set in cinders or bone ash, and the mixture is heated to redness. . . . The dry, rose-colored or whitish product is applied to the skin in a wetted condition, or it may be put on dry and then wetted."

A Formula for Pruritus Vulvæ.—Dr. E. T. Beall (*Texas Medical News*, April) gives the following formula, and says it has served him well in many cases in which measures suggested by other writers have failed:

℞ Quinine sulphate	20 grains;
Menthol	8 "
Carbolic acid	24 "
Citrine ointment	60 "
Ichthyol	150 "
Lanolin	360 "
Castor oil	600 "

M. To be applied freely after ablution of the vagina and vulva with hot water.

THE
NEW YORK MEDICAL JOURNAL,
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NEW YORK, SATURDAY, MAY 7, 1898.

THE LESSONS OF THE INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY AT MADRID.

Rarely, if ever, has a great scientific gathering taken place under circumstances so adverse as those surrounding the ninth International Congress of Hygiene and Demography, which was held in Madrid from the 10th to the 17th of April. Considering the extent to which the government element pervades all matters in Spain, it is a marvel that it was possible for it to meet at all at such a crisis. And yet, it did meet; and, although we may not be prepared to coincide altogether with the opinion of the acting president, Dr. Julian Galleja, that it would prove to be the most influential and far-reaching of all these congresses, there is no denying that it would have been a great success under any circumstances, and that under the exceptionally trying ones in which it was held its success was little short of phenomenal. It was attended by between fifteen hundred and two thousand members, including delegates from nearly every civilized country in both the Old and New Worlds, the United States being represented by Dr. Girard, of the army, and Dr. Tryon, of the navy, who appear by universal consent to have comported themselves under most trying circumstances in such a manner as to gain general approbation. It was unavoidable that, at such a time, some reference to the impending political thunderstorm should find utterance; but the speakers, one and all, bore practical witness to the great truth that science knows no distinction of race, class, creed, or country, but is catholic, one and indivisible, the striving of humanity at large on behalf of humanity at large. This is perhaps the greatest lesson which the ninth International Congress of Hygiene will teach us. It is curious that the enforcement of this lesson should have fallen specially upon the director of the Constantinople School of Medicine, General Mahmoud Pacha, who represented the Turkish government.

The opening address of Dr. Galleja was thoughtful and in every way admirable. He pointed out that sanitation was above all a social science, a science of the people, not merely of the savants. But it was not sufficient to inculcate sound sanitary principles; what was needed was to put them into application, and in doing this there were many obstacles to overcome—financial needs, vested and commercial interests, as well as interference with personal liberty and the sacredness of the home, both of which had at times to be set aside in the enforcement of sanitary principles. To effect this, the interested co-operation of governments was needed, and the greatest result of the congresses had been, in all probability, their influence upon the respective governments of the civilized world. A patriotic reference to the trial through which his country was passing, which, however, he assured his hearers, should not permit anything to be lacking to this solemnization of peace and concord, closed a remarkable address that was greeted with loud and prolonged applause. Among others who spoke at the opening session were Professor Brouardel, dean of the Faculty of Medicine of Paris, and delegates from Germany, Austria, Belgium, Japan, France, Great Britain, Hungary, the United States, Holland, Italy, Mexico, Switzerland, and the Ottoman Empire.

But not only was the political tension not allowed to interfere with the warm official interest of the authorities in this eminently pacific gathering, but the scientific loyalty of prominent personages united therewith to form an object lesson. The special correspondent of the *Lancet* tells us that Dr. Amalio Gimeno, the general secretary, and Dr. Julian Galleja, the acting president of the congress, being candidates for a seat in the senate, and the elections being fixed to take place during the session of the congress, both showed their estimate of the primary importance of science to humanity by remaining at their posts at the congress in spite of urgent telegraphic appeals from their electoral committees to be present on election day with their constituencies. If, therefore, there were no other results of a more technical character accruing from the ninth International Congress of Hygiene at Madrid, it would yet remain remarkable for the fact that in a crisis of the greatest possible political tension and national excitement it had in a dignified manner illustrated by practical example the facts that science, as such, knows no country, and that there are men, even in countries not commonly held to be conspicuous for progress in the interest of humanity, with whom neither local interests nor personal ambitions can outweigh the sense of obligation to mankind at large.

SOME ASPECTS OF THE EARLY SENSE OF SELF.

THE *American Journal of Psychology* for April contains an article under this heading by the editor, Mr. G. Stanley Hall, which will well repay the reading by all interested in the development of self-consciousness. The article is the result of evidence accumulated by five hundred and twenty-three replies by teachers and others to a series of questions concerning the growth of children's sense of self. In addition to these, further sources of information were three hundred and eighty-seven returns collected by Mr. Street, of Clark University, upon early ideas of the soul, and data from probably several score of miscellaneous, incidental, and uncounted papers, so that nearly a thousand persons are here represented. The author directs attention to the order and manner in which, and the organs by which, the respective portions of the human body are first noticed, or "sensed," by the infant, and to the development of its ideas concerning them.

Next are examined the child's investigations in search of somatic consciousness of the internal nature of its body; the matter of dress and adornment as a factor of the ego; the recognition of feature, etc., by means of the mirror, thus rendering amenable to the consciousness of the child portions of itself previously unrealized. The names by which children are known are next considered as a factor of consequence in the early sense of self, and many and curious are the various appellations that have been collected under this heading.

The child's conceptions of the nature and characteristics of the soul are next considered; and finally the writer deals with its questionings along the lines of metaphysics as to the validity of sense impressions, the reality of itself and existence, the relation between itself and the world at large or those around it in particular, the dramatic instinct, the application of these emotions to itself, with a vague perception of duality, and the nature of God, infinity, time, and space. In illustration of this latter section are quoted many queries put by children, such as "Do I really see or feel this?", "Do I really live, or am I only make believe, like dolls?", "If papa had not married B. whose girl should I have been?", playing at papa and mamma; the petting of or sympathizing with themselves, or the realization of consciousness of wrong simultaneously with enjoyment as applied to some forbidden act, thus leading to the conclusion that "there must be two of we," etc. The sum and substance of the author's research is this: "We have sought the real ego in the intellect. It is not there, nor yet in the will, which is a far better expression of it than thought. Its nucleus is below the threshold of consciousness. . . . We must, therefore, without neglecting these older oracles, turn to a different source for real knowledge of the real self—viz., the objective study of every phase and every growing stage of the psyche and of the soma in animals, savages, and children. Soul is vastly larger than consciousness, and the highest powers are those that spring from roots that start deepest down in the scale of life."

MINOR PARAGRAPHS.

THE ARMY MEDICAL SERVICE.

The address of Dr. Conner at the closing exercises of the Army Medical School, Washington, comes as a timely publication in the *Journal of the American Medical Association* for April 23d. The army medical service of every country has the opportunity of being of perhaps wider and more permanent value to humanity at large, and its country in particular, than almost any other organized body of men. The time is long since past when by force of his very isolation the army doctor inevitably degenerated into a mere craftsman, whose sphere of utility was circumscribed by his immediate surroundings. The exigencies of war call forth all his resourcefulness, which frequently culminates in the introduction of methods and appliances whose sphere of applicability is ever extending beyond a military field by the massing together of men in civil life, especially those engaged in dangerous occupations, such as mining, railroad work, etc. The greater facilities of communication by rail, steamer, telegraph, etc., and the universal diffusion of the newspaper enable him not only to keep abreast with the work of his brethren in civil life, but to bring into the field of collective investigation matters that are apt to come under his notice to a greater extent than under that of the civil practitioner, either from their peculiar character or from the *en masse* character of events that happen in the course of war. The whole military method of graduated subordination, methodical observation, and successive report lends itself admirably to the principles of collective investigation.

A GALLANT "NONCOMBATANT."

After Surgeon La Monte's admirable conduct on board the *Topeka*, how can the idea be entertained that staff officers are noncombatants? We mean, of course, noncombatants in the sense of not exposing themselves to peril. The *Topeka* was forced to pick up hastily a crew in a foreign port. The best she was able to do was to ship a brood of "wharf-rats" of various tints of villainy. They were in a semimutinous state all the way to New York. The only naval officers on board were the commanding officer, Lieutenant Knapp, and Surgeon La Monte, and these two gentlemen took turns, night and day, on the bridge. We do not mean to imply that such gallant actions are unusual in the medical corps of the navy; we simply make use of this recent instance to emphasize the fact that they are not. The truth is that nobody on board a man-of-war can properly be called a noncombatant.

THE *TAMIL MEDICAL NEWS.*

We have received a copy of the second number of the first volume of this periodical, which is published at Jaffna, Ceylon. The contents, we are informed, are Ayurveda, Hindu Surgery, Ray Girl, Plague and Dr. Blany, Pharmacology, Medical Notes, Cholera Microbes, and Fever. It looks interesting if we could only read it; but from the few words we can catch printed in Roman letters we opine that it is a reputable professional journal, and on that supposition we offer a welcome to this further proof of the increasing progressiveness of our Oriental brethren.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 30, 1898:

DISEASES.	Week ending Apr. 23.		Week ending Apr. 30.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	7	2	15	9
Scarlet fever	247	16	223	20
Cerebro-spinal meningitis	0	0	0	13
Measles	449	24	539	21
Diphtheria	224	37	213	36
Croup	20	8	10	6
Tuberculosis	215	127	144	151
Small-pox	...	...	2	0
Chicken-pox[1]	...	...	17	0

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, cholera, and plague were received in the office of the supervising surgeon general during the week ending April 30, 1898 :

Small-pox—United States.

Mobile, Ala	April 16–22	2 cases.	
Pulaski County, Ark.	To April 20	42 "	
Washington, D. C	April 22	4 "	
Columbus, Ohio	April 16–22	1 case.	
Charleston, S. C	April 22	1 "	
Columbus, Texas	April 2–22	18 cases.	

Small-pox—Foreign.

Prague, Bohemia	April 2–9	5 cases.	
Hong Kong, China	March 6–12	1 case,	6 deaths.
Leeds, England	March 19–April 9	4 cases,	1 death.
Leith, England	April 2–9	1 case.	
Newcastle-on-Tyne, England	April 2–9	3 cases.	
Bombay, India	March 22–29		4 deaths.
Calcutta, India	March 12–19		3 "
Madras, India	March 12–25		14 "
Messina, Italy	April 9–16		1 death.
Christiania, Norway	April 2–9		1 "
Odessa, Russia	April 2–9	1 case,	2 deaths.
St. Petersburg, Russia	March 26–April 2	19 cases,	8 "
Madrid, Spain	April 1–6		1 death.
Montevideo, Uruguay	March 6–12	2 "	

Cholera—Foreign.

Bombay, India	March 22–29		3 deaths.
Calcutta, India	March 12–19		17 "
Madras, India	March 19–25		2 "

Plague.

Hong Kong, China	Feb. 19–March 12	84 cases,	61 deaths.
Bombay, India	March 22–29		978 "

Digital Compression of the Prostate.—Dr. A. Guépin (Montreal *Clinique*, April, 1898) says that the aim of digital compression of the prostate is to overcome glandular stagnation, to favor the subsidence of prostatic enlargement, and so to combat as far as possible those urinary troubles which arise from enlarged prostate. It is indicated whenever the secretions, whether infected or not, stagnate in the prostatic *culs-de-sac*, whenever their spontaneous evacuation, as in normal coitus, is impossible or incomplete; in other words, in all cases of prostatitis, acute, subacute, or chronic, there is a period in their evolution in which digital compression is a valuable adjunct to ordinary measures. But it is especially useful in the old man whose dilated prostate is invaded little by little by circumglandular sclerosis, or whose muscular fibres insensibly lose their function of expelling the prostatic secretions. The procedure is very simple. The patient's bladder is emptied, either naturally or by the catheter, and about a third of the amount is replaced by warm boric-acid solution. Then either the catheter may be withdrawn or compression practised upon it. The position of the patient is on the hands and knees or bending forward, leaning the arms on a hard seat, lowering the head, and elevating the pelvis. The finger then carefully explores the prostate and recognizes the dilated glands as little prominent cysts or hard lumps under the intestinal mucous membrane. To justify compression, the spot should present a certain softness, yielding to the least pressure like a pouch emptying itself. Then one finds the elevation give place to a depression with regular, firm edges similar to the impression made by the finger on a sheet of soft wax. The least resistance, the least pain experienced by the patient are contraindications. Compression should not be practised in acute cases until, under appropriate treatment, the painful symptoms are subsiding. Even in chronic prostatitis and in senile hypertrophy it is only after a variable time, when the customary therapeutic measures, irrigations, suppositories, catheterism, etc., have done their work, that this method should be used. The local condition to the touch above referred to will mark the proper period. The treatment must be repeated at intervals for a certain length of time. The passage of a flexible catheter of medium size before compression is recommended. On the pressure the patient perceives the passing of a fluid into the urethra, which presents itself at the meatus as large drops of prostatic and vesicular secretion, purulent, fœtid, and sanguineous, or at times nearly normal. After compression a sense of ease ensues, the call to urinate occurs at longer intervals, the pathological erections are less frequent, the bladder empties itself better, the urine becomes clearer, and the local congestion grows less marked.

An International League of Surgeons of the Merchant Marine.—The *Virginia Medical Semimonthly* for April 22d says that the surgeons of this service recently organized a league of which any past or present surgeon, in good professional standing, is eligible to membership. Dr. W. Thornton Parker, of Groveland, Massachusetts, is secretary. The chief objects of the league are to increase the efficacy of the medical service on ocean liners; to encourage surgeons to respect their positions, and to prevent unworthy applicants from receiving employment; to provide information on professional subjects relating to sea service, with a view to lessen the difficulties of recently appointed medical officers; to collect for publication a history of the members; to publish a volume of records which shall be of value to those interested; and to furnish a list of medical officers of the merchant marine serving at sea throughout the world.

The First Removal of the Stomach.—In the *American Journal of Surgery and Gynæcology* for April, Dr. J. Montgomery Baldy, of Philadelphia, referring to the case of Excision of the Stomach by Dr. Bernays, of St. Louis, points out that he himself removed the stomach for sarcoma four years ago, antedating even Dr. Schlatter's famous case. The case was reported and the specimen shown at the Pathological Society of Philadelphia. All but a small portion of the stomach was found to be involved, as was also the mesentery throughout the whole abdomen. A large mass of disease was left high up and involving the œsophagus. To this latter fact is attributed the death of the patient, who withstood the shock of the operation.

The Treatment of Scars.—Mr. Golding Bird, F. R. C. S., Surgeon to Guy's Hospital, London, in a clinical lecture reported in the *Clinical Journal* for April 13th, says, in reference to the distortion produced by burns and scars: "Never divide a scar if you can help it." How, then, he asks, are we to treat cases of this sort? We treat them on the same principle as you treat a sailing boat when the wind overfills the sails—that is, let go the sheet. For there is an insertion as well as an origin to every cicatrix, and they ramify into the skin around and take firm hold. The plan then is to make a V-incision into the healthy skin at one or both attachments of the cicatrix, and dissect them back; or, in other words, dissect up the insertion or the origin of the scar.

The Ultimate Justification of War, says the *Medical Age* for April 25th, is to be found in a perfectly natural and salutary sentiment of hatred. There may be those who imagine war is too wicked for the sensitive conscience of the modern nation. Recent experiences must have convinced them to the contrary. There is no war, however fratricidal, that would not excite the keenest human interest, and the outcome of which would not be followed with as few feelings of active resentment as one would bring to a prize fight or a yacht race. Why should it be pretended that we dislike war when we really like it? Does the expression of a natural instinct require the apology of hypocrisy? War and courage have done as much for mankind as charity. The extermination of the unfit has been as advantageous as their preservation. "We are not great enough," says Frederick Nietzsche, "not to know hatred and envy. Therefore be great enough not to be ashamed of them." Not the least of the benefits to be derived from war is that it enables us to renew our allegiance to certain neglected vices which we are not as yet quite ready to do without.

Post-mortem Prescribing.—It appears (*Medical News; American Journal of Pharmacy*, May, 1898) that spiritualistic mediums have lately taken to setting up in the ranks of the unqualified practitioners by giving prescriptions purporting to emanate from the shades of long-since-departed eminent physicians. Surely such "shady" conduct on the part of the departed disciples of Æsculapius is in the highest degree unprofessional. Post-mortem prescriptions should at least be confined by law to post-mortem patients.

Modern Education.—Dr. S. P. Wise, in an article on The Evil Results of Present Educational Methods (*Sanitarian*, May), writes: "The youth of the present day are living under the reign of the schoolmaster. There is a morbid desire on the part of parents to have their children go through an extensive curriculum of studies, many of which can never be made available for any purpose in life." If modern children lived more under the *rein* of the schoolmaster, and less under the reign of the "crammer," they would probably be all the better for it.

A Lesson in Professional Tact.—The following story, though old, is true, and as illustrating professional etiquette, which, like all true courtesy, is merely the application of the Golden Rule, is worth repeating from its reproduction in the *Toledo Medical and Surgical Reporter* for May. Being called in haste to a patient under the care of a very young practitioner, Sir William Gull found that brandy and water was being given at intervals, with certain other treatment. The great physician carefully examined the patient and said: "Give him another spoonful of brandy." He then retired to a private room with the young doctor in charge. "It is a case of so-and-so," he said, as soon as the door was closed. "You shouldn't have given him brandy on any account." "But," said the junior practitioner in amazement, "I thought, Sir William, that you just told the nurse to give him another spoonful." "So I did," said the great man. "An extra spoonful of brandy won't hurt him; but we mustn't destroy his confidence in you, or he'll never feel comfortable or believe anything you tell him again."

Sex Prediction Made Easy.—Dr. X., of Paris (*Medical Brief; Toledo Medical and Surgical Reporter*, May), has discovered an infallible method of determining the sex of the child *in utero*. After a conscientious auscultation and palpation of Madame Z., he announces that it will be a boy, and at the same time notes on his tablets: "Madame Z.—a girl." When the accouchement takes place, if the newcomer is a boy, well and good; if it is a girl, he exhibits his tablets and assures the mother that she must have misunderstood him.

A Bequest to the College of Physicians of Philadelphia.—Dr. Oliver A. Judson, of Philadelphia, who recently died, bequeathed the sum of $1,000 to the College of Physicians, to be held in perpetuity. The clause in the will briefly referring to the bequest shows that the gift goes toward warding off disease, or more especially toward hygiene. It reads: "As often as the interest on the same ($1,000) shall amount to $100 the same is to be offered as a prize for the best original essay on The Practical Prevention of Disease, and to be known as the Oliver A. Judson prize, and need not be awarded if no essay merits it."

A Pennsylvania Board to Examine Volunteers.—Volunteers for the United States army have become so plentiful that a precautionary measure has been taken by the adjutant general to prevent the physically disabled from getting into service. In Pennsylvania a board of examiners has been appointed by Governor Hastings, to be composed of a surgeon and two civilian physicians. The two physicians who will be on the board are Dr. William Pepper, of Philadelphia, and Dr. W. S. Foster, of Pittsburgh.

The Mortality Statistics of Philadelphia.—There was an increase of forty-five deaths last week over the week before. The total number of deaths was 472, of which six were from typhoid fever, sixteen from diphtheria, and four from scarlet fever.

Changes of Address.—Dr. Andrew J. Billhofer, to No. 79 East One Hundred and Sixteenth Street, New York; Dr. H. W. Carter, to No. 148 East Thirty-fifth Street, New York; Dr. George T. Elliot, to No. 36 East Thirty-fifth Street, New York; Dr. Hermann Goldenberg, to No. 50 East Fifty-eighth Street, New York; Dr. Frank N. Lewis, to No. 35 West Thirty-sixth Street, New York; Dr. Emmett D. Page, to No. 304 Washington Avenue, Brooklyn; Dr. Willard Parker, to No. 8 West Ninth Street, New York; Dr. Chalmer Prentice, from Chicago to No. 165 Fort Street, Detroit; Dr. D. L. Rauch, to No. 1283 Madison Avenue, New York; Dr. George A. Richards, to No. 44 West Forty-fourth Street, New York.

Matrimonial Prognosis.—Fair medico: "I have accepted Mr. Richleigh, mamma." "But I thought you didn't care for him." "Neither do I; but I took a snap shot at his lungs, and he can't live more than five or six months."—*Doctor's Factotum.*

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Fourteen Days ending April 28, 1898:*

Irwin, Fairfax, Surgeon. To proceed to Reedy Island Quarantine as inspector. April 26, 1898.

Carter, H. R., Surgeon. To assume command of Camp Fontainebleau, Miss., in addition to other duties. April 25, 1898.

Brooks, S. D., Passed Assistant Surgeon. To proceed to Port Townsend, Wash., and inspect unserviceable property. April 18, 1898. To represent service at meeting of Washington State Medical Society at Seattle, Wash., May 10-12, 1898. April 18, 1898.

Magruder, G. M., Passed Assistant Surgeon. To proceed to Little Rock, Ark., for special temporary duty. April 23, 1898.

Geddings, H. D., Passed Assistant Surgeon. To proceed to Egmont Key, Fla., for special temporary duty, and then to proceed to Tampa, Fla., and await orders. April 23, 1898.

Wertenbaker, C. P., Passed Assistant Surgeon. To proceed to Columbia, S. C., for special temporary duty. April 23, 1898. Upon completion of duty at Columbia, S. C., to proceed to Sumter, S. C., for special temporary duty. April 28, 1898.

Tabb, S. R., Assistant Surgeon. Granted extension of leave of absence for one day. April 15, 1898.

Hastings, Hill, Assistant Surgeon. To report at bureau for special temporary duty. April 20, 1898.

Society Meetings for the Coming Week:

Monday, *May 9th:* New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); Lenox Medical and Surgical Society, New York (private); Harlem Medical Association of the City of New York; Gynæcological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society (private).

Tuesday, *May 10th:* Association of American Physicians (first day—Washington); New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); New York Obstetrical Society (private); Buffalo Academy of Medicine (Section in Medicine); Kings County, N. Y., Medical Association; Medical Societies of the Counties of Albany (annual), Delaware (annual), Greene (annual—Cairo), Onondaga (annual—Syracuse), Rensselaer, Seneca (annual), and Steuben (annual), N. Y.; Newark (private) and Trenton, N. J., Medical Associations; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Camden (annual—Camden), Morris (annual), and Sussex (annual), N. J., County Medical Societies; Norfolk, Massachusetts, District Medical Society (election—Hyde Park); Franklin, Vermont, Medical Association (annual); Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

Wednesday, *May 11th:* American Laryngological, Rhinological, and Otological Society (first day—Pittsburgh); Arkansas Medical Society (first day—Eureka Springs); Association of American Physicians (second day); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital; Medical Societies of the Counties of Albany and Allegany (annual), N. Y.; Pittsfield, Massachusetts, Medical Association (private); Franklin (annual—Greenfield), Hampshire (annual—Northampton), and Worcester (annual—Worcester), Massachusetts, District Medical Societies; Philadelphia County Medical Society.

Thursday, *May 12th:* American Laryngological, Rhinological, and Otological Society (second day); Arkansas Medical Society (second day); Association of American Physicians (third day); Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Medical Society of the County of Cayuga (annual), N. Y.; South Boston, Massachusetts, Medical Club (private); Pathological Society of Philadelphia.

Friday, *May 13th:* Arkansas Medical Society (third day); Yorkville Medical Association, New York (private); Brooklyn Dermatological and Genito-urinary Society (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, N. Y.

Saturday, *May 14th:* Obstetrical Society of Boston (private).

Births, Marriages, and Deaths.

Married.

Linthicum—Howland.—In New Bedford, Massachusetts, on Tuesday, April 12th, Dr. G. Milton Linthicum, of Baltimore, and Miss Lillian Noyce Howland, of New Bedford.

Letters to the Editor.

THE CORRECTION OF SPINAL DEFORMITY UNDER AN ANÆSTHETIC.

16 Park Avenue, New York, *April 2, 1898.*

To the Editor of the New York Medical Journal:

Sir: In the paper published in the *Journal,* March 26th, on The Correction of Spinal Deformity by Manual Force under an Anæsthetic, I made this statement: "So far as I am aware the operation has not been attempted in this country." In a letter under date of March 30th, my friend Dr. Ridlon, of Chicago, gives me this information, which I gladly send you: "I read a paper on this subject on October 7, 1897, before the Mississippi Valley Medical Association at Louisville, Kentucky, at which meeting the learned editor of the *New York Medical Journal* was present. Doubtless mention was made of my paper in all journals reporting the meeting. In this paper I reported all of my cases up to that date. I read another paper on the same subject before the Chicago Medical Society on December 23, 1897, and placed that paper in the hands of the editor of the *Journal of the American Medical Association* on December 24, 1897, for publication. The paper appears in the last issue of that journal (March 26th), but an abstract of it appeared in the February issue of the *Chicago Medical Record*."

V. P. Gibney, M. D.

Proceedings of Societies.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of March 2, 1898.

The Vice-President, Dr. S. Alexander, in the Chair.

A Clinical Report upon the X Ray in Fractures.—Dr. George W. Crary presented this report. He said that he had been struck with the fact that a well-marked fracture might be present without showing in the X ray at all. A Röntgen picture was presented from a case of Colles's fracture, in which the fracture could not be discovered even in the negative. Four surgeons had examined the case, and all had obtained easily the most definite evidence of such fracture. Where there was no displacement, and the fractured ends were in contact, the picture might not show a fracture at all. This fact was of some medico-legal importance.

Another fact that had impressed him was that the callus would not always be shown in an X-ray photograph. Röntgen pictures were presented from a case of non-union, which had been brought to him two months after the injury. He had succeeded in getting union, but had been unable to reduce the deformity. It had been a case of fracture of both bones of the forearm. Four months after the receipt of the injury, while there had been distinct and firm bony union, the Röntgen picture had appeared to indicate that union had not taken place. Apparently, these pictures would not prove that union had occurred unless the callus was old. Another Röntgen picture was shown, that of a case of fracture of the femur, with angular deformity, taken five months after the injury. Although the bony union had been perfect by callus, the appearance of the picture indicated that union had not occurred.

The next Röntgen picture was exhibited to prove that a plaster-of-Paris dressing did not always immobilize the fractured bones. The case had been one of fracture of both bones of the forearm in the lower and middle third, treated under one plaster dressing. The reduction had been effected under chloroform anæsthesia. One picture showed that the deformity of the ulna had not been reduced. Another, taken five weeks later, showed that the radius had slipped out of place. Bony union had, however, taken place. This same defect in plaster-of-Paris dressings was still further emphasized by pictures from a case of fracture of the ulna very near its lower end. The first one, taken at the time of the application of the plaster dressing, showed overriding of the fragments; the second, taken the next day, showed that this overriding had disappeared. In this case the slipping of the bones had happened to be in the right direction.

The speaker said that the value of X-ray photography depended largely upon the interpretation placed upon the picture. In illustration of this, photographs were exhibited from a case in which a fracture of the forearm had resulted from direct violence. There had been no crepitation, but the false motion had been so marked that there could be no doubt about the diagnosis, and there had been no overriding. Nevertheless, the line shown by the photograph was not that ordinarily seen in cases of fracture; it was a dark and not a white line.

The next Röntgen picture shown was from a case in which a diagnosis had been made of Colles's fracture. The peculiar course of the fracture and the outline of the styloid process of the ulna were very well shown in the picture. Another picture was shown from a case of fracture of the styloid process of the ulna which had come under observation two weeks after the injury. It had been impossible to make out anything more than a rupture of the internal lateral ligament by the usual methods of examination, but the X-ray photograph showed that, in addition, the styloid process had been torn off.

The next photograph was instructive because it had failed to throw any light upon the diagnosis. It was from a case in which a man had struck a blow with his fist closed. He had struck the carpo-metacarpal joint of the thumb. The photograph had been taken a few weeks after the injury. Attention was called to the apparent prominence of the metacarpal joint of the thumb. Dr. Crary said that when the thumb was held closely opposed to the hand this extreme prominence of the carpo-metacarpal joint was always shown in photographs of normal hands.

The next Röntgen picture was of a compound fracture of both bones of the forearm, and was of interest as showing that the apparent deformity which had existed in the forearm was greater than the real deformity. The radius was perfectly straight, but there was a slight bowing of the ulna. The deformity was largely due to the prominence of the proximal end.

The last of the series of photographs was from a case of sarcoma of the carpal bones, with dislocation forward of the entire carpus.

Dr. H. M. Silver presented in connection with this exhibit three additional photographs. He said that last June he had been called to see a young lad of sixteen, who had been thrown from his bicycle a few hours before. He had already been seen by a physician, who had almost completely reduced the deformity of the wrist. The next day photographs had been taken of both the uninjured and injured sides. They had shown, on the injured side, an epiphyseal separation of the lower end of the radius, and also a fracture of the base of the styloid process of the radius, and a fracture of the styloid process of the ulna. The latter was carried down toward the pisiform bone. The patient had been anæsthetized and the hand carried forcibly inward to overcome the slight outward displacement. Eight months and a half afterward, a second photograph had been taken, and this had shown that the carrying of the hand to the inner side had completely restored the epiphysis to its normal position. The fragment at the base of the styloid process of the ulna had seemed to have united, and there had been some slight thickening of the lower extremity of the radius.

Dr. ROBERT T. MORRIS referred to a case of impacted fracture of the head of the humerus which had been seen by a number of surgeons, none of whom had been able to make the diagnosis by the usual methods of examination. The Röntgen picture had shown that there was an impacted fracture of the head of the left humerus, and that the greater tuberosity impinged upon the acromion. In another case, one of disability of the elbow, the photograph had disclosed only a separation of the cartilage of the head of the radius.

(To be continued.)

Book Notices.

A System of Obstetrics. Based upon a Translation from the French. By Dr. A. AUVARD, Accoucheur to the Hospital of Paris. Revised from the Third Edition by JOHN DAVIS HARTLEY, M. D. Third Edition. With Five Hundred and Forty-three Illustrations. J. B. Flint and Company, 1898. Pp. 17 to 455.

THIS book is a valuable addition to the library of any student of obstetrics, especially to the teacher, who will find many suggestions within its pages. The contents are arranged in thirty-four chapters, beginning with menstruation and ovulation and taking up all the different departments of obstetrics. It is to be regretted that a work containing so much that is good should have such poorly printed illustrations. Those showing contracted pelves are particularly poor.

A Compendium of Insanity. By JOHN B. CHAPIN, M. D., LL. D., Physician in Chief, Pennsylvania Hospital for the Insane, etc. Illustrated. Philadelphia: W. B. Saunders, 1898. Pp. xvi–17 to 234. [Price, $1.25.]

THIS little volume contains a clear, concise statement of the clinical aspects of the various abnormal mental conditions, together with directions as to the most approved methods of managing and treating the insane.

It is written in a clear style, by an alienist of distinction, and should prove useful to the student and general practitioner of medicine as well as to members of the legal profession. It may be read with profit, also, by the layman.

Die Untersuchung unserer wichtigsten Nahrungs- und Genussmittel. Von Dr. med. C. BEIER, Bauske (Curland). Leipzig: C. G. Naumann, 1898. Pp. viii–147.

IN this little book the author presents a series of physical and chemical tests for the detection of adulterations of the ordinary articles of food and drink. The tests are comparatively simple for the most part and do not require elaborate laboratory facilities or special skill in laboratory technics, but do require time—much time. However, if a physician to whom the services of a well-equipped laboratory are inaccessible desires to examine suspected food and possesses the requisite leisure, he will find the contents of this volume useful.

Therapeutisches Vademecum der Haut- und Geschlechtskrankheiten für practische Aerzte. Von Dr. REINHOLD LEDERMANN, Specialarzt für Hautkrankheiten in Berlin. Berlin: W. Oscar Coblentz, 1898. Pp. 159.

To those who have uses for compends this may be commended as a fair example of books of that class. Considering the amplitude of title and exiguity of space between the covers, it seems to be superfluous to note that the presentation of the subjects is sketchy and insufficient. However, the collection in one book of the descriptions of numerous preparations and their formulæ, which have been recently presented in various publications, is convenient. And this apparently is the main excuse for its existence.

Aids to Aseptic Technique. By A. D. WHITING, M. D., Assistant Surgeon to the German Hospital, Philadelphia. Philadelphia: J. B. Lippincott Company, 1898. Pp. 8 to 154. [Price, $1.]

THIS volume is a distinct addition to the series of which it forms a part, for, while it is addressed chiefly to those who have charge of the preparations for operation in hospital work, it so clearly outlines the principles of aseptic technics that a little ingenuity could find good substitutes for the expensive and complicated apparatus it describes.

How to Become a Trained Nurse. A Manual of Information in Detail. With a Complete List of the Various Training Schools for Nurses in the United States and Canada. Edited by JANE HODSON, Directress of Nurses, State Hospital, Fountain Springs, Pennsylvania, etc. New York: William Abbatt, 1898. Pp. 11 to 265.

INFORMATION relative to training schools for nurses has heretofore been obtained, for the most part, either by direct application to the institutions themselves or from those whose personal experience has enabled them to give a description of the requirements, rules, remuneration, etc., in the schools in various parts of the country. An intending applicant for training has never before had the opportunity of determining for herself the different features of the many schools by means of such a reference book in which all the pertinent facts could be so readily obtained.

The editor of this volume, a graduate of the New York Hospital Training School, together with her collaborators, has presented a useful compendium upon the routine of instruction and other matters pertaining to the initial and final steps to be undertaken and accomplished in acquiring the art of nursing, in which the subject has been fairly and usefully described.

The life of a nurse, from the probationary term through her school to graduation, in hospital employment, and in private practice, with its many and various requirements, pleasures, annoyances, successes, and disappointments in each of these situations, is clearly portrayed.

Practical hints and useful advice accompany each of the chapters, and a complete statistical list of the training schools in the United States and Canada is appended. The volume is fully illustrated and should be a useful guide to all interested in the subject.

BOOKS, ETC., RECEIVED.

An American Text-book of Genito-urinary Diseases, Syphilis, and Diseases of the Skin. Edited by L. Bolton Bangs, M. D., Consulting Surgeon to St. Luke's Hospital and the City Hospital, New York, and to the Methodist Episcopal Hospital, Brooklyn, etc.; and W. A. Hardaway, A. M., M. D., Professor of Diseases of the Skin and Syphilis in the Missouri Medical College, St. Louis, etc. Illustrated with Three Hundred Engravings and Twenty Full-page Colored Plates. Philadelphia: W. B. Saunders, 1898. Pp. 3 to 1229. [Price, $7.]

The Diseases of the Stomach. By William W. Van Valzah, A. M., M. D., Professor of General Medicine and Diseases of the Digestive System in the New York Polyclinic Medical School and Hospital, and J. Douglas Nisbet, A. B., M. D., Adjunct Professor of General Medicine and Diseases of the Digestive System in the New York Polyclinic Medical School and Hospital. Illustrated. Philadelphia: W. B. Saunders, 1898. Pp. 5 to 674. [Price, $3.50.]

Yellow Fever in the West Indies. By Izett Anderson, M. D. Edin., Extraordinary Member of the Royal Medical Society of Edinburgh, etc. London: H. K. Lewis, 1898. Pp. 106. [Price, 3*s.* 6*d.*]

Hyperkeratomycosis of the Pharynx. By Dr. Charles A. Wilson-Prevost, Graduate of the University of Paris, etc. Danbury, Connecticut: The Danbury Medical Printing Company, 1898. Pp. 7 to 61.

Report on Bubonic Plague. Being a Report based upon Observations on Nine Hundred and Thirty-nine Cases of Bubonic Plague treated at the Municipal Hospital for Infectious Diseases at Arthur Road, Bombay, from September 24, 1896, to February 28, 1897. By Khan Bahadur N. H. Choksy, Extra Assistant Health Officer, Bombay Municipality. Bombay: The Times of India Press, 1897. Pp. 57.

Les hydrocéphalies. Par le Docteur Léon d'Astros, Médecin des hôpitaux de Marseille, etc. Paris: G. Steinheil, 1898. Pp. 336.

La thérapeutique des empyèmes. Par le Docteur E. Cestan. Ancien interne des hôpitaux de Paris. Paris: Georges Steinheil, 1898. Pp. iii–5 to 394.

Handbuch der Therapie innerer Krankheiten in sieben Bänden. Herausgegeben von Dr. F. Penzoldt, Professor in Erlangen, und Dr. R. Stintzing, Professor in Jena. Zweite theilweise umgearbeitete Auflage. Neunte Lieferung. Mit 21 Abbildungen im Text. Zehnte Lieferung. Mit 19 Abbildungen im Text. Jena: Gustav Fischer, 1898.

New York Eye and Ear Infirmary Reports. Volume VI. January, 1898.

Medical and Surgical Reports of the Boston City Hospital. Ninth Series.

Montana Agricultural Experiment Station. Larkspur Poisoning of Sheep. Bulletin No. 15.

Quarterly Bulletin of the Michigan State Board of Health. Volume I, No. 2.

The Surgical Treatment of Acute Inflammations of the Middle Ear. By Edward B. Dench, M. D. [Reprinted from the *Journal of the American Medical Association.*]

The Society of the New York Hospital. One Hundred and Twenty-seventh Annual Report. For the Year 1897.

The Aural Complications of Influenza. By Edward B. Dench, M. D. [Reprinted from the *Transactions of the New York Academy of Medicine.*]

The Inguinal Operation for Femoral Hernia. By George M. Edebohls, M. D. [Reprinted from the *Post-graduate.*]

The Other Kidney in Contemplated Nephrectomy. By George M. Edebohls, M. D. [Reprinted from the *Annals of Surgery.*]

A Case of Vicarious Menstruation from the Lungs. By T. L. Chadbourne, M. D., of Columbus, Ohio. [Reprinted from the *Journal of the American Medical Association.*]

Digestion Leucocytosis in Stomach Disease. By T. L. Chadbourne, M. D. [Reprinted from the *Columbus Medical Journal.*]

Some Conclusions drawn from Experiences in Pelvic Surgery. By A. V. L. Brokaw, M. D., of St. Louis.

An Exhibition of Radiographs, with Remarks. By A. V. L. Brokaw, M. D. [Reprinted from the *Transactions of the Southern Surgical and Gynæcological Association.*]

Miscellany.

Lavage of the Organism in Acute Cocaine Poisoning.—Experimental researches by Dr. Carlo Bozza, of the University of Naples (*Giornale internaz. delle scienze mediche,* February, 1898; *Canadian Practitioner,* April, 1898), are said to show that a new general method of cure for all poisonings can be found in lavage of the organism, as proposed by Sanquirico. The latter—starting from the known canon of the pathology of the blood, "that the organism in normal conditions is endowed with a regulating power so quick and certain as to tend always, in qualitative and quantitative changes of the blood, to resume its original physiological condition"—endeavored to utilize the fact of the ready elimination of neutral liquids injected into the blood, with the object of freeing it mechanically from heterogeneous substances which might injure it. Lavage of the organism rests on the known fact that the vascular tree has the property of allowing itself to be distended, without experiencing any local or general change, by liquids injected in considerable quantities; and it proposes to quickly eliminate from the organism poisonous substances introduced in fatal quantities, by means of the secretory hyperactivity induced by the increased arterial pressure. The advantages to be derived from lavage of the organism must, without doubt, be ascribed: 1. To the greater dilution undergone in the blood by the poisonous substance, which therefore reaches, in a smaller quantity, the anatomical element upon which it exerts its elective action. 2. To the more rapid and certain elimination of the poison produced (*a*) by the gradual increase of the blood pressure, the mass of the blood plasm being increased by the addition of the sodium solution; (*b*) by the greater fluidity of the blood, which (Cohnheim), while it facilitates renal filtration, permits the heart to overcome more easily the resistance of the vessel walls. 3. To the lessened absorption of the substance administered, on account of the increase of the intravascular pressure, since, as we know, the fullness of the circulatory system is an obstacle to absorption.

It seems evident, therefore, that lavage of the organism, resting specially on the strength of the cardiac contractions, and upon perfect renal functions, but also on the sweat secretion, can be assisted, whenever possible, by the administration of digitalis and pilocarpine.

Sanquirico, in a series of experiments extended over many years, tried with varying results lavage of the organism in many poisonings, by strychnine, alcohol, chloral, nitrate of aconitine, urethane, caffeine.

Continuing such experiments, I have tried to find how far lavage of the organism can avail against acute cocaine poisoning, which is met with not very rarely, since this alkaloid has been used as an anæsthetic in minor surgery.

As a neutral liquid I have used a physiological solution of sodium chloride, which has the advantage of having no solvent action on the red corpuscles, and hence does not produce hæmoglobinuria. For instrument I have used Rogers's apparatus for intravenous injections, because it permits the gradual and regular entry of the liquid into the vein at a known pressure, without any danger of the entrance of air. The needle and all the apparatus were diligently sterilized and the liquid filtered and sterilized. I made these experiments with dogs, which were more available than other animals for my purpose.

Starting from these data, I began to try the effect of lavage as caused by abundant hypodermoclysis of artificial serum in an animal poisoned by the minimum fatal dose of cocaine, and was able to see that by lavage not only did the symptoms of poisoning become less severe, but also that the state of stupefaction which was wont to remain in the animals after the convulsive stage, and which preceded the period of depression and death, was eliminated.

The author then records a series of six experiments with different kinds of dogs, a record of their condition after the hypodermic injection of varying doses of cocaine, also of their condition at different periods after the injection of the sodium solution.

The Serum Treatment of Pneumonia.—Pane (*Gazzetta degli ospedali e delle cliniche,* January 30, 1898; *British Medical Journal,* April 16th) reports nine cases of pneumonia treated with antipneumonic serum during a recent epidemic of pneumonia in Naples which was of a grave type. The quantity of serum used varied from ten to a hundred and ten cubic centimetres. Death occurred in one case, but here the treatment was not adopted until the fifth day of the disease, and then the serum was used only in small quantities (ten cubic centimetres). In all the other cases the effect of serum treatment was decidedly good, inducing rapid improvement of the symptoms. No intolerance or ill effects were observed. Since there is little hope if the pneumococcus enters the blood, and since this probably does not happen before the third or fourth day, if good results are to be expected from the administration of serum, it must evidently be used in the early stages of the disease to be of avail; moreover, at this time a smaller quantity of serum will suffice. As an average dose, the author recommends twenty cubic centimetres per diem.

Piperazine in the Treatment of Urinary Calculus.—In the *Philadelphia Medical Journal* for April 23d Dr. Augustus A. Eshner relates the case of a young man who came under his observation in March, 1894, on account of recurrent attacks of pain in one or other loin, at varying intervals for a period of eight or nine years. As a child he had had an attack of hæmaturia, unattended with pain, and for four or five years subsequently he had similar attacks at intervals of from a week to a month. From this period on the attacks were attended with pain, but free from hæmorrhage. It was stated that the pain would appear in either hypochondrium (never in both at the same time) and extend to the loin. These attacks were repeated about once a month at first, but they subsequently increased in frequency until they recurred once a week or oftener, usually occurring at night, and lasting from six to eight hours. Hæmaturia had occurred once again about a year before the patient came under the author's observation. There had never been jaundice or an appreciable swelling, although the loins and hypochondria appeared slightly tender on manipulation. The urine, examined a day after a paroxysm, was found to be perfectly clear, of amber color, and of acid reaction; it had a specific gravity of 1.020 and failed to react to tests for albumin and sugar. It contained a moderate number of colorless blood-corpuscles and a small number of red cells.

After a brief period of observation, a diagnosis of renal calculus was made and confirmed by Dr. T. S. K. Morton, who now saw the case in consultation and suggested the use of piperazine in doses of five grains thrice daily, largely diluted with water. After six days of this treatment, in conjunction with a milk diet and rest in bed, the patient felt certain sensations pointing to the descent of a foreign body down the left ureter, and in the course of a few hours more signs of a stone in the bladder were present, although this condition had been excluded previously by vesical exploration. A sound now introduced into the bladder came in contact with a body that conveyed the sensation of a gritty blood-clot, measuring about a quarter of an inch in its smallest and three eighths of an inch in its longest diameter. Dr. Morton concluded from this examination that they had to deal with a descended renal calculus having its outer layer softened—perhaps as an effect of the action of the piperazine. The lad was anæsthetized on the following day and litholapaxy performed by Dr. Morton. The calculus was easily caught and crushed, and the fragments were evacuated by the Bigelow washing apparatus, eighteen grains of *débris* being removed. This material proved to consist of uric acid. The outer layers were soft and plastic, as if the denser portions had been dissolved away, leaving only the matrix of blood and mucus.

The patient continued to take piperazine, five grains thrice daily for a week in every month, and for nearly nine months he felt well and was free from all distress. He was then seized with an attack of pain in the right loin, lasting for ten hours, but unattended with hæmaturia. Three months later, in May, 1895, another and prolonged attack occurred, micturition being for several days attended with pain and with the urine tinged with blood. After this there was almost constant pain in the right hypochondrium and loin for a month, which disappeared upon the administration of piperazine. The patient was now comfortable for four months, when, in September, 1895, the pain returned in an aggravated degree. Sweating at night occurred, with fever, the temperature on one occasion reaching as high as 105° or 106° F. At this time also a clot of blood was observed in the urine. As piperazine was causing gastric derangement, with nausea and vomiting, and occasioned distressingly increased frequency of micturition, so great at night as to disturb sleep, it was deemed justifiable to prepare the patient for operation upon the right kidney, in the hope of removing any concretions that might be present in the renal pelvis or the ureter. The patient was urged to continue meanwhile taking the piperazine twice daily. On October 5th he became conscious of the presence of a foreign body in the bladder, without preceding pain or premonition, and on the following day he passed two small calculi, which were unfortunately lost in the urinal. The urine was obstructed twice in its flow and the click of each stone was heard as it struck the basin.

The patient again took piperazine for a short time and remained free from serious discomfort (save cerebral concussion in consequence of falling from a bicycle) for more than two years, when the pain in the right loin returned. The administration of piperazine was resumed, and after four weeks the young man found the flow of urine suddenly obstructed, with subsequent dribbling and the passage of a few drops of blood. Early in the morning of the following day he became conscious of a sense of pain in the perinæum, which gradually advanced forward, and on attempting to pass urine at bedtime, a clot of blood, and finally a calculus, as large as the kernel of a good-sized almond, were expelled from the urethra, without effort or noteworthy pain or hæmorrhage.

“Oxygenated Oxide of Boron” in the Treatment of Tuberculous Disease.—In a paper read before the California State Medical Society at its recent meeting Dr. G. W. Daywalt, of San Francisco, told how he had been led to the use of a product to which he applies this name, obtained by the oxidation of boron under pressure. He described it as a colorless liquid, stable in composition and of a slightly acid reaction, bland and unirritating. He related a number of cases in which he had used the product subcutaneously, in daily amounts ranging from five to forty cubic centimetres. Between September 1, 1897, and April 1, 1898, he said he had treated eighteen cases of tuberculosis of the lungs, of which ten were in the first and second stages and had been cured in the sense that all cough had ceased and no bacilli were to be found in the sputa. The patients had regained their normal weight and appearance. The eight others were in the third and fourth stages of the disease. Two had died and the six others were still under treatment.

The Parental Form of the British Guiana Blood Worm.—Dr. C. W. Daniels (*Lancet*, April 16th) reports the discovery of mature filariæ post mortem, in the upper part of the mesentery and the fat of the pancreas, of two aboriginal Indians in whom Manson's filarial embryos had been found during life. They occurred in small groups and were chiefly females. They were not found, in spite of careful search, in the heart, blood-vessels, thoracic duct, lungs, or other organs. They differ materially from other known filariæ and are considered by the author likely to be the parental form of one of the already-known and named species of nematode embryos described by Manson. The following is the author's description of the parasite: The female parasite has a rounded, unarmed head which, in living specimens, is in active movement, altering its shape and rapidly elongating and retracting. As seen under a low power these movements recall the cephalic movements of the embryo in the blood, except that in the adult nothing corresponding to the beak of the embryo is protruded. Compared to *Filaria Bancrofti* the neck is longer, the taper of the cephalic end of the worm being more gradual. The mouth is very minute; no differentiation of the alimentary canal into œsophagus and intestine could be made out. In the female the intestine terminates in a small papilla 0.145 millimetre from the tip of the tail, which for the last 0.3 or 0.4 millimetre is curved in every specimen, the tip being prolonged by two triangular cuticular processes which give it a bifid or mitred appearance. There are two ovarian tubes which contain ova and embryos in various stages of development. The embryos examined were all blunt-tailed, and appeared to be destitute of sheaths, even while still in the ovarian tubules. In only one parasite could the arrangement of the vagina be clearly made out. In this instance the ovarian tubules were seen to open into a common vagina which, at first convoluted, became less so, and at the same time narrowed as it was traced toward the vulva, terminating in a straight portion which opened externally about 0.6 millimetre from the head.

The head and neck of the male are similar to those of the female. As stated, the males were much fewer than the females; in consequence of this I have obtained only two perfect male caudal ends. Both of these are much coiled, and in one of them, examined during life, the terminal portion remained persistently so. From this specimen there protruded a long single spicule, and on each side of the point of its emergence two small papillæ (a pair?) were indistinctly remarked. The coiled-up arrangement of the tail interfered with exact measurements, as well as with the determination of certain important points of structure, especially as to the presence or absence of a second spicule. The long spicule, plainly visible, protruded at a point about 0.09 millimetre from the tip of the tail. The protruded portion was nearly 0.16 millimetre in length. The portion of the spicule within the body of the worm could be readily traced up the body for about 0.6 millimetre. It terminated in a trumpet-shaped expansion with which a seminal tubule seemed to be continuous. The basal portion of the spicule is not so distinctly marked off from the posterior or filiform portion as in *Filaria Bancrofti*, and is devoid of the markings apparent in that worm. The tip of the tail is sharply incurvated, a triangular cuticular prolongation being also apparent. Whether this cuticular appendage is, as in the female, double or not could not be ascertained. During life the spicule was at times partially retracted.

The other male tail was still more closely coiled up, and consequently the details could not be made out; the spicule was not protruded.

Brewer's Yeast in Diabetes.—M. Combemale read a communication on April 8th before the *Société centrale de médecine du Nord* (*Nord médicale*, April 15th) in which he reported the case of a woman who for ten years had been under Bouchardat's regimen for diabetes, with the result that under that regimen the sugar decreased from (approximately) 1,200 to 300 grains to the quart, increasing again whenever the regimen was stopped. She applied to M. Combemale in consequence of numerous furuncles, and he placed her on the use of three tablespoonfuls of fresh brewer's yeast a day, placing no restrictions as to diet, etc., with the gratifying result that the sugar fell in a month from 1,275 to between 315 and 435 grains, while the general condition marvelously improved and the furuncles cicatrized.

Addresses by Foreign Delegates at the International Congress of Hygiene, Madrid.—Professor Brouardel followed the president, and after him the German, Austrian, Belgian, Japanese, and French delegates, all of whom alluded in laudatory terms to the part Spain was playing in sanitary science. Dr. Donald MacAlister, who represented Cambridge, and who was habited in red gown, spoke for England. In a few appropriate sentences he alluded to the work done at former congresses, and to the fact of Spain and England having worked together in other fields than science as allies, and said that, while in these they had been victorious, they would in sanitary science still march together. After Dr. MacAlister came the representatives of Greece, the United States, Holland, Italy, and Mexico. The Mexican representative received a grand ovation; again and again the audience cheered. Here was the representative of a country which had only recently freed itself from Spanish rule exactly as Cuba wishes to do to-day, and against that fact must be placed the warm reception of its representative who, alluding to Spain as the mother of his fatherland, said that the daughter had inherited all the virtues of the mother, and that Mexico had on recent occasions given considerable evidence of her filial affection. Strange irony it seemed to us. Following Mexico came Norway, Switzerland, and Turkey. Russia was not spoken for.—*British Medical Journal*, April 16th.

Cure of Goître in a Newborn Infant by Thyreoid Medication of the Mother.—Dr. Mosse, of Toulouse, reported to the Paris Academy of Medicine on April 12th (*Gazette hebdomadaire de médecine et de chirurgie*, April 17th) the case of a suckling child, three months old, affected with a large bilobed goître. The mother also had one, without myxœdema, but with enfeebled intellect. The medication consisted of the daily administration of two tabloids representing about twenty-two and a half grains of thyreoid body. The treatment was suspended for a few days. After a month and a half the mother's goître had diminished, and the effect on the infant was remarkable. After a second period of treatment the nursling was completely cured.

"What Great Events from Trivial Causes Spring!"—The following, said to be "selected," we take from the April number of the *Ohio Medical Journal:*

"What's that book you're reading?" "*The Last Days of Pompeii.*" "What did he die of?" "An eruption."

Notelets.—It is stated that Dr. Leopold Muller, of the University of Vienna, has discovered the bacillus of trichoma.—Dr. J. S. Spencer, of San Francisco, is reported to have found tubercle bacilli in cigars.—The Moscow physicians boast of a medical society established in 1804, but the Medical Society of Maryland was in existence in 1798.—Pennsylvania contains a village called Friendsville that boasts of seventy persons of more than ninety years out of a population of a hundred and thirty-five inhabitants.—*Clinique* (Montreal), April, 1898.

The Post-collegiate Factors of Success in Medicine.—In a notable alumni address delivered before the class of 1898 of the Medical Department of the University of Louisville, by Dr. James Weir, of Owensboro, Kentucky (*American Practitioner and News*, April 15th), we find the following:

The physician who goes out into the world and confines his rule of practice to the narrow bounds of didactic, collegiate instruction, had best write "Dennis" on his office sign-board, for that will be his name sooner or later, be he named Jones, Smith, Dobson, or what not. What your professors have been able to give you is a mere drop in the bucket; you yourselves must increase your stores of knowledge. Buy books, good books of all kinds, and read them; get knowledge, the rest is easy.

Right here let me say a word to the prize-winners, and I preface my remarks by saying that what follows is said in all kindness. I do not mean to disparage their attainments in the slightest degree. You men who obtain prizes and honorable mention, etc., do not let your success obtund your common sense; tighten your hatbands and keep down all tendency toward cephalic tumefaction. One of the prize-winners of my class broke his hatband twenty years ago, on the day he received his diploma, and he has been wearing that hat ever since. He has never made enough by his practice to buy himself another. On the other hand, one of the slow men of my class has made such a name for himself that he is known in certain branches of science in the English-speaking world, aye, even in foreign lands, while yet another has a practice of some ten thousand a year. One of these men loved science for the sake of science, while the other had patience, perseverance, adaptability, and pluck.

Now, I am not putting a premium on ignorance; I am merely calling attention to the fact that the race is not always to the swift, nor the battle to the strong. Take courage, you who won no prizes; the race is never finished until the goal is reached, as the fable of the hare and the tortoise most emphatically teaches.

Another thought: As soon as you discover that the practice of medicine is irksome to you, that you have to drive yourself to business, quit it at once, for you will never make a success of life otherwise. No matter if this knowledge does not come to you for several years, when it does come, heed it and you will never regret it.

To be a successful practitioner, a physician must not only believe in medicine, but he must likewise be in love with his profession. Again, while there is not a truer axiom than the saying "A laborer is worthy of his hire," no doctor ever made a success in medicine who made money-getting his sole object. In these days medicine has been elevated to a place among the sciences, and true science is jealous of its prerogatives. You can not serve God and Mammon; neither can you serve science and be a plutocrat. The two are incongruous. Science says to her worshiper, I must have your undivided attention; to me belongs every thought and every moment of your time that is not taken up by the necessary affairs of life. The golden stream of Pactolus has its origin, its source in the crucible and the alembic of the scientist, but the robes of Midas rest on other shoulders than his.

Mark you, I do not decry wealth. Money as a medium of exchange is absolutely necessary. What I warn you against is the soul-destroying, intellect-killing worship of the Golden Calf. The passion for accumulating wealth is a disease, and its invasion is slow and insidious. A man once thoroughly under the influence of this disease will sacrifice honor, duty, aye, even the certainty of a blissful eternity, for the sake of piling up a few more dollars.

The doctor who demands his fee in advance shall never prescribe for me and mine; for such a physician thinks more about the contents of his pocketbook than he does about the symptoms of his patient. Now, do not mistake me. A physician should be a business man as well as a scientist; his duty to himself as well as his duty to his fellow man demands this. But he need not sacrifice scientific acumen and professional ethics on the altar of pecuniary consideration. That is not at all necessary.

I ask you to glance at your own professional acquaintances: Which is considered the more scientific, the better doctor—the wealthy possessor of the brougham and pair, or the hard-working driver of the buggy and flea-bitten bay? Which would you rather have when you or your loved ones are stricken with disease and death hovers in the air? Ah, gentlemen, my contention is true; wealth and true science are incongruous.

The Microbe of Sauerkraut.—The discoverer and sponsor of this micro-organism (*Revue médicale,* April 13th) examined some cabbages that had been heaped in a cask for only twenty-four hours, and found therein a bacillus, motile, ciliated, exhaling much gas, and giving rise to the characteristic odor of sauerkraut. He named it the *Bacterium brassicæ acidæ.* We may add that, in view of the "envy, hatred, malice, and all uncharitableness" often observed in medical controversy, and particularly as to claims of priority of invention, this illustrious scientist would confer a public benefit by directing his attention to the microbe of "sour grapes."

Thyreoid Medication and the Genital Functions.—At the *Société des sciences médicales de Lyon,* Dr. Rivière (*Gazette hebdomadaire de médecine et de chirurgie,* April 14th) reported the cases of two arthritic patients of the ages of thirty-six and forty years respectively, of sedentary life and belonging to the liberal professions, who, after taking thyreoid tablets for a short time to reduce obesity, found themselves the subjects of complete sexual impotence. On the other hand, Dr. Pollosson had treated successfully two cases of rebellious amenorrhœa by thyreoid medication.

Nothing New under the Sun.—"'Total extirpation of the bladder,' now. What will they do next, I wonder?"

"Extirpate the entire subject, I suppose."

"That's nothing new. They often do that now."

When may the Subjects of Gonorrhœa be deemed Cured?—The *Journal des praticiens* for April 16th regards this question as of the gravest importance, because the compulsory abstention from intercourse bears hard upon the patient, while its too early resumption is fraught with danger to the woman. It is commonly recommended to have recourse to the "reaction of Neisser," which consists in producing an artificial irritation of the urethra by injecting some drops of a solution of nitrate of silver, whereby a secretion is caused which may be examined for gonococci. For the same purpose, the drinking of beer, the passage of bougies, etc., are recommended. Dr. Delefosse condemns these measures as not only without value, but actually dangerous by reason of the risk of producing cystitis, orchitis, etc. His method of procedure is as follows: Coitus is not permitted so long as there remain filaments in the urine in any number, or so long as the filaments are long and fall rapidly to the bottom of the vessel or contain gonococci, pus organisms, or even many pus cells. When the filaments are short, few in number, slight, and floating, he directs the patient to present himself early next morning without having urinated since night, and having thoroughly fatigued himself on the preceding day. Pressure is made per rectum on the prostate, then the finger is drawn exteriorly along the urethra for its entire length, pressing firmly. At the same time, if necessary, a bougie may be introduced to afford a point of resistance. He collects from the meatus the discharge so obtained and submits it to microscopical examination; finally, the canal is scraped to a depth of two inches or two inches and a half from behind forward, and the scrapings are examined under the microscope. If these two examinations are negative he directs the patient to drink, during the following week, beer or champagne, to ride a bicycle, and to take long walks; then he makes another morning examination. If this proves negative, he sanctions coitus after a fortnight.

The Medical Journal of the Maine.—From the *Medical Fortnightly* for April 15th we learn that the medical journal of the battleship Maine has been received at the navy department, where it is to be kept, not only as a relic of the destroyed vessel, but for reference in case it is needed. The book presents a sorry-looking spectacle, showing plainly its soaking in the salty waters of Havana harbor, where it was for four days before it was recovered. Although the blue lines have faded from the paper, the metallic ink used by the navy is as fresh and distinct as ever and every word is visible. The journal has entries in it up to almost the very moment of the explosion.

Arsenious Acid and Alcohol in Cancer.—Dr. Montserrat, chief of the dermatological clinic of Montpellier, records in the *Montpellier médical* of April 9th the case of a woman, seventy-three years of age, affected with a cancer of eight years' growth situated at the upper part of the left side of the nose, near the inner canthus of the eye. Poultices were applied to remove the incrustations, and the ulcerated surface laid bare and showing bleeding villi was treated with a 1-to-150 solution of arsenious acid in ethyl alcohol and water, equal parts, applied by means of a pledget of absorbent cotton on a stilet, the surface having been first antiseptically cleansed. The application was renewed every day on the eschar, antiseptic cleansing of the surface taking place each time. The treatment was begun on June 30th. On September 18th the patient was discharged cured. The principle is dependent upon the escharotic action of the arsenious acid acting in conjunction with the dehydrating properties of the alcohol, determining necrosis of the neoplasm and "mummifying" it. In this instance the cure was effected without pain, and without apparent scar, and bears out the reports of Dr. Cerny and Dr. Trunececk, of Prague, in the *Semaine médicale,* 1897, page 161.

Alcohol on an Empty Stomach.—The habit of drinking alcohol in various forms on an empty stomach, instead of during and after eating, and "straight" instead of well diluted, is one of the most pernicious customs of the day. Alcohol in a well-diluted form, as in light wines, beer, etc., if taken with meals in moderate quantities, will do hardly any one harm, most people good, and to some few is a positive necessity. But the gulping down before meals of draughts of raw spirit, which is alcohol in a concentrated form, as is commonly done in America, is about as unphysiological and as pernicious as can possibly be. The drinking of strong and undiluted alcoholic beverages on an empty stomach is encroaching upon the time-honored moderation of the French, if we may judge from a strong protest on Alcoholism and some of its Consequences, by M. Mayet (*Echo médical de Lyon,* February; *Revue du praticien,* April 16th).

Hospital Abuse in France.—We gather from the *Revue des praticiens* for April, 1898, that the abuse of medical charities and the thronging of the hospitals by a class of patients in easy circumstances who ought to pay for medical care, and who thus help to make the general practitioner's already too hard struggle harder than it need be, are by no means confined to the United States and England. The Superior Council of Public Assistance laid down at its session of March 16th to 19th that hospitals ought to be restricted to the indigent, and that those in easy circumstances should be excluded. Exceptions are made, on condition of a "sufficiently remunerative fee, so that the welfare of the poor may not be compromised," in favor of: 1. Patients attacked with infectious diseases, whether strangers or residents in the commune, but lodged in such conditions that they can not be cared for effectually at home or without danger to others. 2. Travelers seized with illness, medical or surgical, provided there is not a *maison de santé* in the commune.

The International Congress of Hygiene and Demography in Madrid.—This congress, notwithstanding the troublous times which enshrouded Spain, was duly opened on the 10th of April in the grand lecture hall of the Palais des Musées et Bibliothèques. The Queen Regent was represented by the minister of the interior, Don Trinitano Ruiz de Capdepon. The opening address, on the services which hygiene is called on to render to humanity, and the obstacles which it encounters in all civilized nations, was delivered by Dr. Julian Calleja, dean of the Faculty of Medicine of Madrid.

Dr. Amalio Gimeno, secretary-general of the congress, invited the attention of the government and of the Spanish universities to all questions of hygienic interest. An address of welcome was delivered by the Count of Ramanonés, mayor of Madrid. Representatives were present from all the nations of Europe except Russia and Denmark, also delegates from North and South America. The representative of North America succeeded in his speech, so the *Progrès médical* (April 16th) informs us, in avoiding all questions likely to give offense. After the session, the Queen Regent with the King, Alfonso XIII, came in person to open the Exhibition of Hygiene situated in the same building. The members present amounted to some sixteen hundred, for the most part from Spain, the Spanish-American Republics, and France. From England, Italy, Austria, and Germany came also delegations of military surgeons. The opening was a decided success, notwithstanding the disturbed state of the kingdom from tension in its foreign relations.

The Pneumococcus as a Saprophyte in the Tonsil.—F. Besançon and M. V. Griffon recently presented to the Société médicale des hôpitaux (*Presse médicale,* April 16th) a communication in which they state that the pneumococcus is a constant inhabitant of the throat, whether normal or pathological. They arrived at this conclusion by substituting for inoculation of animals with saliva that of inoculation with the cultivation of the tonsillar secretion in a suitable medium—viz., the serum of a young rabbit. A forty-eight-hour culture injected into mice invariably killed, and the pneumococcus was found in their tissues and cultivated therefrom. Forty persons of all ages and conditions, none of whom had had pneumonia, were examined by the authors, and from their investigations they conclude that the pneumococcus, like the streptococcus, finds a normal habitat in the buccal cavity.

The Action of the Organs upon Strychnine.—As a result of researches in this direction, Dr. H. Roger (*Presse médicale,* April 16th) concludes that the so-called antitoxic function is not the exclusive appanage of any organ or tissue; but that while all the organs, all the tissues, and all the cells are capable of struggling against the intoxications, certain portions of the organism, as a consequence either of their activity or of their situation, are of special importance in this connection. When poison is introduced either into the digestive canal or subcutaneously, the following results occur respectively: In the first case, the poison may be modified by the intestinal epithelium. If it crosses this barrier, it encounters the liver, whose protective function is most important and incomparable; some portion may, however, escape even its vigilance, and be carried by the blood current into the lung, whose protective action has been demonstrated. Behind this viscus the poison reaches the aorta, whence it spreads itself throughout the entire economy. If certain tissues can even yet enchain a part of it, and thus prevent its accumulation in the nervous centres, if the muscles and the abdominal viscera are able to seize upon it, their intervention is too tardy and their binding power too feeble to be really efficacious. When the absorption takes place, however, by the peripheral veins—*i. e.,* when the poison finds entrance subcutaneously—the liver is too tardy in its action, and it is upon the lungs, the first organs traversed by the poison, that the protective rôle devolves.

The New British Pharmacopœia.—We learn from the *Lancet* of April 16th that the new Pharmacopœia, which is not yet ready for issue to the public, is a great improvement upon its predecessors. While conservative, as usual, it is a far more up-to-date production. The experience of medical and pharmaceutical authorities in India and the colonies has been drawn upon, while a committee of the Pharmaceutical Society and many medical authorities have rendered valuable aid. Referees in chemistry were Dr. E. T. Thorpe, Dr. W. A. Tilden, and Dr. Emerson Reynolds; in botany, Dr. W. T. Thistleton-Dyer and Mr. E. M. Holmes; and in pharmacology and therapeutics, Dr. Lauder Brunton, Dr. Walter Smith, and Dr. Ralph Stockman. The volume was edited, as in previous editions, by Professor John Attfield, under the supervision of a committee of the General Medical Council consisting of the late Sir Richard Quain, Bart., M. D., as chairman, Dr. Atthill, Mr. Brudenell Carter, F. R. C. S., Sir Dyce Duckworth, M. D., Dr. Leech, Dr. MacAlister, Dr. D. C. McVail, Mr. Tichborne, and Sir John Batty Tuke, M. D., as members, and Dr. Nestor Tirard as secretary. The alterations consist of removals and additions, changes of nomenclature, change in the composition of compound preparations, alterations (chiefly lowering) of the potency of preparations, and the addition to the section on testing of a list of the impurities to be sought for in given drugs. The index is now arranged in one column in place of two, side columns being added to give the page reference, dose, and strength of the chief preparations. The index is the only place in which groups of official preparations are enumerated (following immediately after the English name of the drug). The following is a list of the additions (seventy-nine in number), while the omissions number a hundred and eighty-seven, a large proportion of which are preparations—*e. g.,* solid extracts, decoctions, tinctures, etc.

List of Additions.

Araroba.
Aurantii cortex recens.
Benzol.
Bismuthi salicylas.
Caffeinæ citras effervescens.
Caoutchouc.
Carbonis bisulphidum.
Cocaina.
Codeinæ phosphas.
Extractum belladonnæ liquidum.
Extractum ipecacuanhæ liquidum.
Extractum jaborandi liquidum.
Extractum nucis vomicæ liquidum.
Extractum strophanthi.
Glycerinum acidi borici.
Glycerinum pepsini.
Hydrargyri oleas
Hyoscinæ hydrobromidum.
Hyoscyaminæ sulphas.
Infusum scoparii.
Kaolinum
Lamellæ homatropinæ.
Liquor calumbæ concentratus.
Liquor caoutchouc.
Liquor chiratæ concentratus.
Liquor cuspariæ concentratus.
Liquor ethyli nitritis.
Liquor hamamelidis.
Liquor hydrogenii peroxidi.
Liquor krameriæ concentratus.
Liquor morphinæ tartratis.
Liquor pancreatis.
Liquor picis carbonis.
Liquor quassiæ concentratus.
Liquor rhei concentratus.
Liquor sarsæ compositus concentratus.
Liquor senegæ concentratus.
Liquor sennæ concentratus.
Liquor thyroidei.
Lithii citras effervescens.
Morphinæ tartras.
Naphthol.
Oleum pini.
Oleum rosæ.
Paraffinum liquidum.
Physostigminæ sulphas.
Pilula quininæ sulphatis.
Pix carbonis præparata.
Pruni virginianæ cortex.
Quillaiæ cortex.
Quininæ hydrochloridum acidum.
Salol.
Spiritus anisi.
Strychninæ hydrochloridum.
Suppositoria acidi carbolici.
Suppositoria belladonnæ.
Syrupus aromaticus.
Syrupus calcii lactophosphatis.
Syrupus cascaræ aromaticus.
Syrupus codeinæ.
Syrupus ferri phosphatis cum quinina et strychnina.
Syrupus glucosi.
Syrupus pruni virginianæ.
Terebenum.
Thyroideum siccum.
Tinctura ergotæ ammoniata.
Tinctura pruni virginianæ.
Tinctura quillaiæ.
Trochiscus acidi carbolici.
Trochiscus eucalypti gummi.
Trochiscus guaiaci resinæ.
Trochiscus krameriæ.
Trochiscus krameriæ et cocainæ.
Unguentum aquæ rosæ.
Unguentum capsici.
Unguentum cocainæ.
Unguentum hydrargyri oleatis.
Unguentum hydrargyri oxidi flavi.
Unguentum paraffini.

Ancient Drug Pots.—The *Pharmaceutical Era* for April 28th contains an interesting special contribution on Ancient Drug Pots, with illustrations. Specimens are depicted of Hispano-Moresque jars, those of the Italian Renaissance, etc. Specimens of inscriptions are given, with some remarks on the subject of pottery in general. In conclusion, the writer says: "Has America no relics of this kind? One would think that in the monasteries of the old Spanish states the curio-hunter could find samples of Spanish or Italian ware, for the convents were usually the best customers for pharmaceutical pottery."

Normal Salt Solution in Medicine and Surgery.—Dr. Palmer Findley (*Medical Standard,* April, 1898) thus sums up the advantages, principles, and relative value of various methods of making use of normal saline solution:

1. Enteroclysis is the method of choice where normal salt solution is indicated, providing there is time to await its effect.

2. The body temperature, vascular tension, renal, skin, and bowel secretions are influenced in direct ratio to the temperature of the injected fluid.

3. Injected solutions of high temperature, however, may lower the body heat by promoting the excretions.

4. A solution at 60° to 70° F. given within the colon, will first stimulate and later depress the blood tension and the secretions of the skin and kidneys. It is therefore to be used with caution, particularly in renal insufficiency.

5. In the subcutaneous method I believe we have all that is required where immediate effect is desired save where abdominal section may indicate intraperitoneal injections; where the withdrawal of a quantity of blood has made it possible to give intravenous injections with the least possible loss of time; and where the serous cavities have been relieved of a quantity of fluid which may be replaced by normal salt solution.

6. As a rule, no time is gained by the employment of the intravenous method, which should only be used when preceded by venesection for the withdrawal of a quantity of blood.

7. In intravenous injections it is possible to cause death from too great dilution of the blood, an accident quite impossible in hypodermoclysis or enteroclysis.

8. Normal salt solution is indispensable in the treatment of alarming hæmorrhage, and is of great value in the treatment of the various toxæmias, and in renal insufficiency.

9. After the removal of a large quantity of fluid from the pleural cavity the salt solution may be injected into the cavity as a substitute for the effusion, and will thereby lessen shock and relieve septic infection.

10. In cholera and cholera infantum, normal salt solution is invaluable as a substitute for the lost serum.

11. Venesection with the withdrawal of a quantity of toxic blood is indicated in toxæmias where the patient is plethoric, and should be followed by intravenous injection of an equal or greater amount of normal salt solution.

12. In hæmorrhage, normal salt solution maintains the circulation by adding to the volume of the circulating fluid which would otherwise stagnate in the veins because there is not sufficient volume for the heart to propel.

13. In toxæmias normal salt solution dilutes the toxines of the blood and favors their elimination by stimulating the excretory organs.

"Cease Fighting."—Under this heading in the *Medical Times and Register* for April 23d there is an excellent article on the personal feeling which is frequently called forth in medical discussions. The writer says: "As scientific men whose chief aim and purpose in life is to cure disease, and when once contracted to do our utmost in aiding Nature to rapidly return to a standard of health, we should be above those petty, personal discussions which oftentimes are seen in our leading medical journals. Of what earthly use is it to call a man an 'obscure practitioner,' practising in an 'out-of-the-way place,' or to make other references of a similar character in order to cast a slur on his arguments? We fail to recognize the connection. Sound, substantial argument never requires personal attacks, and the very moment a man indulges in the latter all fair-minded men immediately begin to question the validity of the accuser's position.

"Environment does not make the thinker, whether a man lives in New York or Kalamazoo. His opportunities, of course, may be increased, his judgment intensified, his facilities for clinical observations widened, but back of all these advantages stands the man himself; and it is safe to say there is as much original thinking in the so-called country practitioner as there is to be found in many of his more happily favored city colleagues.

"We can not all be suns in the firmament of medical astronomy, but each of us can be stars of greater or lesser magnitude, not striving to surpass the other in the brilliancy of our light, but uniting our rays to dissipate the darkness by which many medical problems are obscured. Cease fighting, brothers; cease fighting."

Stretching of the Pneumogastric Nerve.—A modification of the bulbous enlargement, a region of nervous centres so delicate to approach directly, is affected by this mode of treatment, and it has been employed by M. Jaboulay, according to the *Lyon médical* for April 17th, in a case of epilepsy in which it seemed to exercise a veritable influence on this region. The patient was a young man who had had as many as twenty-five attacks a day, preceded by an epigastric aura, and the affection had been overcome by this treatment. This operation has also the advantage of preventing spasm of the larynx and of the organs of deglutition, and of suppressing an approaching attack in many forms of essential epilepsy which begin in the region of the heart and the stomach. When this treatment is carried out on one side and combined with section of the sympathetic on one side, the peripheral cardiac effects are compensated —counteracted—and the entire encephalon is modified.

M. Jaboulay states that he has also practised stretching of the pneumogastric nerve in a case of exophthalmic goître in which there were severe attacks of coughing, especially at night. While section of the left cervical sympathetic caused the corresponding eye to retreat into the orbit and suppressed the diplopia, which was more pronounced on this side than on the other, stretching of the tenth nerve on the left side caused the cessation of the cough; the patient was very much benefited by this double operation, which had, besides, the advantage of modifying in this case the sympathetic fibres which were united to the pneumogastric nerve.

M. Jaboulay is of the opinion that stretching of this nerve will find several of its most important indications in certain inflammations of the lungs, the nutrition and function of which it directs, as well as in a few troubles of deglutition which are of nervous origin.

This operation has been practised by M. Jaboulay on one side only; it should be done through the same incision which has been made for the purpose of exposing the cervical sympathetic—that is, by an incision which runs parallel with the posterior border of the sternocleido-mastoid by making a slight incision in its fibres; it does not go below the external jugular vein, in order to spare the spinal accessory. The vasculo-nervous bunch inclines to the front, but we may, however, pass between the internal jugular vein, left behind and to the outer side, and the internal carotid, which is in front and on the inner side. The pneumogastric nerve appears in both cases under the form of a white regular cord joined to the posterior external border of the artery; the grooved sound isolates it and engages it, bringing it forward upon its smooth and convex surface as far as the opening of the incision without abruptness; a silk thread passed around the nerve by means of a Deschamps needle may also be employed. The pulse becomes hurried and the respiration noisy if the pulling is too energetic; it is necessary not to exceed the limits of traction compatible with the proper ulterior function of the nerve. Although this elongation was prudently carried out in the cases mentioned, a sort of harshness was observed in the patient's voice during the few following days, as if the corresponding vocal cord had undergone a slight injury in its action.

Heredity in the Ætiology of Fibrous Bodies of the Uterus.—The following instances are recorded in the *Gazette médicale de Paris* for April 16th by M. F. de Ranse, who thinks they may be of interest to the medical profession in view of the very obscure ætiology of fibrous bodies of the uterus: In the year 1880 he was called to attend a woman, about forty-four years old and the mother of two children, who presented a fibrous tumor of the uterus; it was very large, for it occupied the entire pelvis and had advanced from two to three fingers' breadth above the umbilicus.

The symptoms especially complained of by the patient were very sharp pains due to the pressure of the tumor or to its reflex action and an incontinence of urine. Although there had not been profuse hæmorrhage, the patient was weak and her general condition very bad. M. Péan, who was called in consultation, refused to operate. He inferred that there were many old adhesions, and feared that the patient could not stand a necessarily long operation. They were, therefore, limited to medical treatment, of which appropriate hygienic measures, careful applications of electricity, and two consecutive seasons at Néris for the purpose of drinking the water constituted the principal part. In the meantime the menopause occurred, and in 1886 the patient was well enough to travel in the Pyrenees. At the present time her health is excellent, and the tumor, which has become reduced more than four fifths in size, is indolent and does not cause her the least trouble.

The patient's sister, a nun, a woman somewhat older than herself, was taken at about the same age with hæmorrhages symptomatic of a fibrous body. In this case the tumor did not grow very large, but it gave rise to inflammation of the appendages, with intense pains, profuse hæmorrhages, and an extreme weakness which obliged the patient to remain absolutely quiet for a long time. After the menopause occurred slow but progessive restoration set in, and at the present time her activity in caring for the sick and her resistance to fatigue may serve as an example to younger and stronger persons.

The third case was that of an unmarried daughter of the first patient, thirty-seven years old. For three or four years she had suffered pain in the abdomen and had frequent and profuse menstruation following any great exertion and on two or three occasions when she had had a fall. At the same time the anæmia and the weakness had progressed and the general condition had become bad. On palpation it was ascertained that the right ovarian region was very painful, and a tumor was found near the fundus of the uterus which was sunken and anteverted; it appeared to extend on the right side, where the annexa were evidently the seat of a congestive or of a phlegmatic attack. The tumor extended beyond the pubes by about two fingers' breadth. From the beginning the symptoms and the development of the tumor were similar to those presented by the second patient, who was her aunt. It may be expected, the author thinks, that the ulterior evolution and the termination will not be less favorable.

M. de Ranse questions whether this is simply a coincidence or due to hereditary influence. Broca, he says, in his *Traité des tumeurs,* cites several examples of the undoubted influence of heredity on the development of these accidental productions. One case, for example, was that of a woman and her three daughters who, toward the same age, presented fibrous formations of the breast. Another instance was the development in two women, an aunt and a niece, of a fibroma in each lobe of the ear under the influence of an irritation caused by earrings. Warts, wens, neuromas, osteomas, cataracts, etc., have also been observed in several members of the same family.

In explanation of these facts, Brown, says M. de Ranse, remarks that the disposition and the pathological tendencies of the organs may be transmitted by heredity, and that certain tumors, due to troubles of nutrition, but entirely local, may be developed in the same organ in several persons of the same family because of an innate or hereditary disposition of this organ. The phenomenon of heredity is not essentially allied to the nature of the accidental productions or to the nature of their causes. Certain tumors have a greater tendency than others to become hereditary. Those which depend upon a general diathesis rank first; but it is necessary to understand clearly that no tumor is necessarily hereditary, that all may become so, whether they are local or general, benign or malignant.

The author feels that the observations cited demonstrate clinically this influence of heredity, and thinks that this question has not only a theoretical and scientific interest, but a true practical importance. When a woman, he says, complains of uterine troubles, the knowledge of the fact that her mother or any one of her near relations has presented a fibrous body of the uterus should warrant a physician in the belief that he has to deal with a similar case, and he should insist on the necessity of an immediate examination. In the case of an unmarried woman he is thus enabled by an early diagnosis to institute a diet and a treatment which are all the more influential in their action from having been employed in the beginning.

On the other hand, from a prognostic point of view, and in view of the opportunity of surgical intervention, the knowledge of this fact may bring forward a very useful element. The hereditary disposition to which a patient owes her tumor may act also under the evolution of this tumor. Now, if, in the members of a family previously attacked, this evolution has been favorable, it enables the physician to expect that it will be equally favorable in the patient under observation. Consequently, surgical intervention becomes less obligatory and may be deferred. In cases of a grave evolution with a fatal issue, on the contrary, in patients previously attacked, there may be found in the theory of heredity a powerful argument in favor of operation, even of an early operation.

The following conclusions on the subject are offered by the author: 1. The majority of gynæcologists, if not all, recognize the obscurity of the ætiology of fibrous bodies of the uterus, and are silent concerning the rôle of heredity. 2. This influence of heredity on the origin and the development of fibrous bodies of the uterus is warranted in principle by general pathology and demonstrated clinically by facts which attract attention and demand to be classed as new facts. 3. The knowledge of the hereditary predisposition of a patient attacked with uterine fibroma is of considerable importance in view of the diagnosis, the prognosis, and the treatment, particularly regarding the occasion for surgical intervention.

The New York Academy of Medicine.—At the last general meeting, on Thursday evening, the 5th inst., Dr. S. Edwin Solly, of Colorado Springs, was to read a paper on The Use of Climate for the Tuberculous, which was to be discussed by Dr. I. H. Hance, of Lakewood, N. J., Dr. J. E. Stubbert, of Liberty, N. Y., and Dr. H. P. Loomis.

At the next meeting of the Section in Surgery, on Monday evening, May 9th, Dr. D. H. Goodwillie will read a paper on The Surgical Treatment of External Deformities of the Nose.

At the next meeting of the Section in Genito-urinary Surgery, on Tuesday evening, the 10th inst., Dr. F. R. Sturgis will read a paper entitled The Differential Diagnosis between Prostatorrhœa and Urethorrhœa; patients will be presented and specimens and new instruments will be exhibited.

At the next meeting of the Section in Pædiatrics, on Thursday evening, the 12th inst., the following papers will be read: The Causes and Treatment of Habitual Constipation in Infancy, by Dr. Thomas S. Southworth, which is to be discussed by Dr. A. Jacobi, Dr. L. E. Holt, Dr. R. B. Kimball, Dr. F. M. Crandall, and Dr. L. M. Yale; and Clinical Results with Antistreptococcus Serum, by Dr. Louis Fischer, which is to be discussed by Dr. J. W. Brannan, Dr. H. D. Chapin, Dr. W. H. Park, Dr. S. H. Dessau, Dr. Edwin Rosenthal, of Philadelphia, Dr. J. J. Concannon, Dr. W. L. Somerset, Dr. H. W. Berg, and Dr. C. A. von Ramdohr.

Strychnine in Asphyxia Neonatorum.—Dr. Henry S. Fry (*American Journal of Obstetrics,* April; *Clinical Review,* May) recommends from practical experience hypodermic injections of $\frac{1}{200}$ of a grain of strychnine, on the principle that it is our most powerful remedy in surgical shock, and should therefore be equally valuable in the grave form of asphyxia neonatorum, which is really a form of shock.

Immunity from Cobra Poison.—Dr. Walter Myers, of Cambridge, read a paper before the Pathological Society of London (*Lancet,* April 16th) on his experiments relating to immunity against cobra poison. Referring to the view that a certain amount of the antitoxic substance was normally present in the animal which furnished the antitoxine, and that this chemically combined with and neutralized the toxine, Dr. Myers had tried to find out whether any of the organs of the guinea-pig had an effect upon cobra poison, with the result that the suprarenal body alone gave positive results, when used in a ten-per-cent. emulsion in sterilized normal saline solution. A mixture of more than the lethal dose with the suprarenal emulsion caused four out of seven injected animals to survive altogether, while the three others outlived the check animals considerably. The suprarenal body of the sheep also gave positive results.

The German Poliklinik.—The programme for a meeting of the Wissenschaftliche Zusammenkunft der Aerzte der deutschen Poliklinik on April 29th included the presentation of patients, the demonstration of preparations and instruments, and the continuation of a discussion on the treatment of syphilis introduced at the previous meeting by Dr. Ludwig Weiss.

Original Communications.

A CASE OF HYPERTROPHIC PULMONARY OSTEO-ARTHROPATHY.[*]

By EDWIN M. HASBROUCK, M. D.,
SALISBURY, MD.

In the year 1890, P. Marie, of Paris, under the name of *ostéo-arthropathie hypertrophiante pneumique*, differentiates [†] from acromegaly (previously described by him) a disease of the long bones and joints characterized by excessive enlargement, and apparently dependent upon a pulmonary lesion. In his paper, Marie speaks at length upon a case published [‡] the year previous by Gouraud under another name, and which he considers to be a typical case of the newly named malady, also of one published by Friedreich in 1865 under the name of hyperostosis of the entire skeleton, based upon two brothers by the name of Hagner. These two cases he considers historical, as being the first reported cases of a really distinct disease, but which were confounded by their reporters with previously recognized affections.

Since the recognition of hypertrophic pulmonary osteo-arthropathy as distinct from acromegaly and other diseases, thirty-four well-recognized cases have been reported, and twenty-eight more either insufficiently so or not quite typical. Of the well-authenticated cases, five only have been recorded from the United States, the remainder being scattered throughout the various countries of Europe, but coming mostly from France, England, and Germany, with one isolated case from Australia.

The disease is an exceedingly rare one, and inasmuch as but five cases of it are known to have occurred in this country, I venture to report to the society this evening a sixth case—one that came under my observation during the last year—but first I would like to review briefly the five cases preceding it.

The first one is that reported [#] by Packard in a man twenty-nine years of age, who, while a youth fifteen years old, began to have a hacking cough with bloody expectoration and night sweats. At the same time he noticed that his finger tips and nails were getting rounded. Frequent attacks of rheumatoid pains annoyed him in the various joints, and at times his hands were so stiff that he could only semiflex them. His back was bowed almost from the outset of his chest troubles—the cough, clubbing of fingers, stiffness in joints, and arching of back having all been noticed at nearly the same time. Examination of chest gave a typical tubercular condition, although the sputum, which was profuse and fœtid, contained neither bacilli, elastic tissue, nor fatty acid crystals. The appearance of the forearms was small, but there was a gradual swelling and broadening until the wrists were reached. The hands showed a peculiar deformity, almost if not quite confined to the terminal phalanges of the fingers and thumbs. The carpal and metacarpal portions presented no deformity.

It will be seen that the fingers are natural until the last digits are reached, when there is an increase in all the diameters, giving to them the appearance—suggested by Marie—of drumsticks. The nails are large, strongly curved from side to side and from base to edge. This enlargement seemed to be made up of all the tissues, but chiefly by changes in the bone. The feet were large, but chiefly the terminal phalanges of the toes, where almost the same appearance obtained as in the hands.

The second case is Davis's,[*] that of a boy four years and six months old. When one year old he had pneumonia and had coughed ever since, expectorating large quantities of purulent sputa. About one year afterward (when two years of age) his parents noticed that the ends of his fingers and toes became deformed by enlargement, and that his wrists and ankles were increased in size to an abnormal degree. From an examination of the chest it was evident that an effusion completely filled the left pleural cavity, compressing the lung against the upper and posterior wall of the chest, and that this condition had existed about a year. The bones of the upper arms were not enlarged, but both wrists were considerably thickened and broadened. The metacarpal bones were not affected, but the first phalanges of the fingers were abnormally large, especially near the *first* finger joint. The *second* row were a little or not at all affected, but the terminal phalanges were enormously and most characteristically enlarged, greatly broadened and thickened. The nails were abnormally arched both longitudinally and from base to edge, resembling in their curvature a parrot's beak. Precisely the same changes were visible in the feet, the ends of the toes, and especially the big toes, being clubbed and greatly enlarged. The ankles were greatly thickened and also the bones about the knee. Very little if any pain was complained of.

The third, fourth, and fifth cases are reported by Thayer,[†] of Johns Hopkins, being cases that occurred in the clinics at the hospital.

The first of these was a Polish woman, twenty-eight years old, who within six months of "catching cold" (which clung to her) developed a marked clubbing of the finger tips in the right hand with incurved nails, also enlargement of the tibiæ at the lower ends.

The second was a young man, twenty years old, with a marked and rapidly developing tuberculous condition. At the end of a year his hands, feet, and ankles began to enlarge perceptibly, so that he found he could not get his boots laced. At the time of his admission to the hospital the size of his feet and hands was remarkable. The lower extremities of the long bones of the arms took part in this enlargement. The metacarpal region was particularly noticeable for its deformity. The fingers were long and massive, the ends of the terminal phalanges being markedly enlarged and club-shaped. The legs were remarkable, the lower third of the tibia and fibula being strikingly thickened, and just above the ankles this was extraordinary. The feet were somewhat enlarged, but the toes were massive and club-shaped.

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[*] Read before the Medical Society of the District of Columbia, January 19, 1898.

[†] *Rev. de méd.*, vol. x, 1890, p. 1.

[‡] *Bull. de la Soc. méd. des hôpitaux*, No. 15, 1889.

[#] *American Journal of the Medical Sciences*, vol. ciii, 1892, p. 657 (663).

[*] *Journal of the American Medical Association*, vol. xxiv, 1895, p. 845.

[†] *New York Medical Journal*, January 11, 1896, p. 33.

The third is that of a man aged thirty-one, in which the condition appeared after an attack of pneumonia and of empyema of long standing—about five years. The lower ends of the ulna and radius on both sides were markedly enlarged and thickened. The clubbing of the finger tips was very marked, while the interphalangeal articulations were also considerably enlarged. The nails were large and showing a marked incurvation. The same condition obtained in both hands. Both knees prominent and enlarged, this enlargement being shared by the lower ends of the femurs and the upper ends of the tibiæ. Both ankles enlarged, the tibiæ sharing in the enlargement; an increase in the size of the bones forming the instep, while the bones of the toes of both feet were elongated and markedly clubbed.

My own case is as follows:

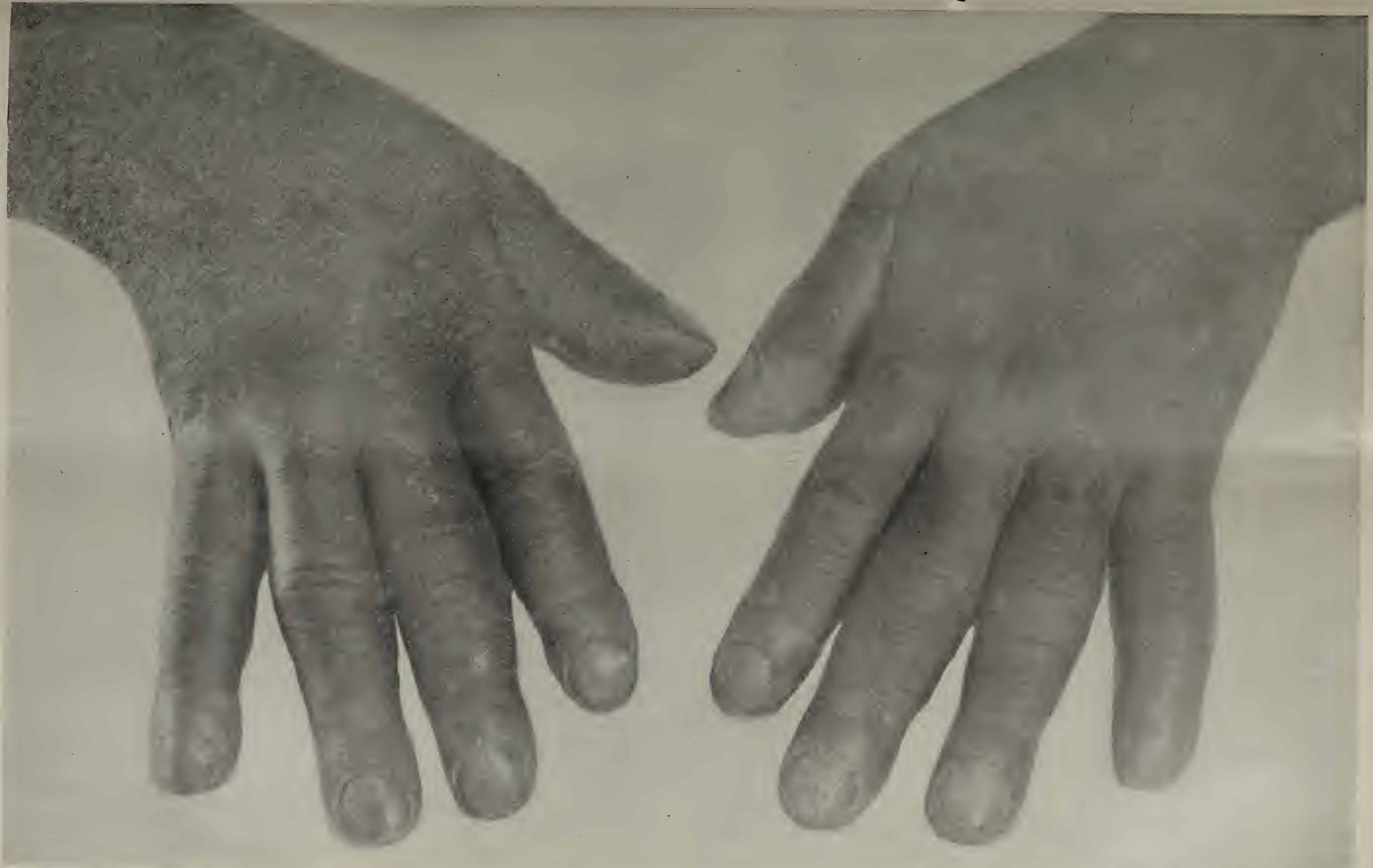
Frank B., colored, aged fifty-five years. Family history excellent; parents died of old age, the father at ninety-five and the mother at eighty-nine. No history of tuberculosis anywhere in the family; denies syphilis or any venereal disease, and examination of the penis shows no cicatrix of a sore. Has been through the diseases of childhood, having had whooping cough, chicken-pox, mumps, measles, and scarlet fever, in addition to which he has had small-pox and neuralgia. Aside from this he has been strong and healthy up to about a year ago. He has been a laboring man all his life, and for two years worked underground in a mine; has been addicted to the mild use of alcoholics, but was never intoxicated in his life. In April, 1896, a small swelling appeared just beneath the right lower jaw, which grew slowly at first, but later enlarged rapidly, until March 29, 1897, when I first saw him, it involved the entire tongue, and had spread by metastasis until every chain of glands on the right side of the neck was involved, presenting a large mass of glands which, together with the original tumor, made respiration, deglutition, and articulation exceedingly difficult. The tongue could not be protruded beyond the lips, the tumor mass involved the tongue and pressed it well over toward the left side of the mouth, and the breath was excessively foul and offensive. Since Christmas the hands have begun to grow and swell until, when I saw him in March, they were of the size seen in the photographs, and of the measurements given. Later the feet and ankles had begun to take part in this enlargement, but not to so great an extent. It was impossible for him to close his fists, and he complained bitterly of the pain in his hands and forearms. The knee and elbow joints did not take part in this enlargement, but the distal extremities of the ulna and radius of both arms did, as did also the carpal bones, as shown in the Röntgen picture. The ends of the fingers presented a club-shaped appearance, with the nails somewhat broadened and well rounded over. The bones of the head were unaltered, as were apparently the remaining portions of the osseous system. The heart and lungs were subjected to repeated examination, but were apparently normal; there was slight dullness over the sternum about the region of the fifth rib. He coughed a great deal, expectorating a quantity of thick, yellowish, foul-smelling substance resembling pus, which I attributed to the breaking down of the tumor in his mouth, as he said it had done so on several occasions. The urine was apparently normal; specific gravity, 1.028; no albumin; no sugar.

Measurements of the Hands.

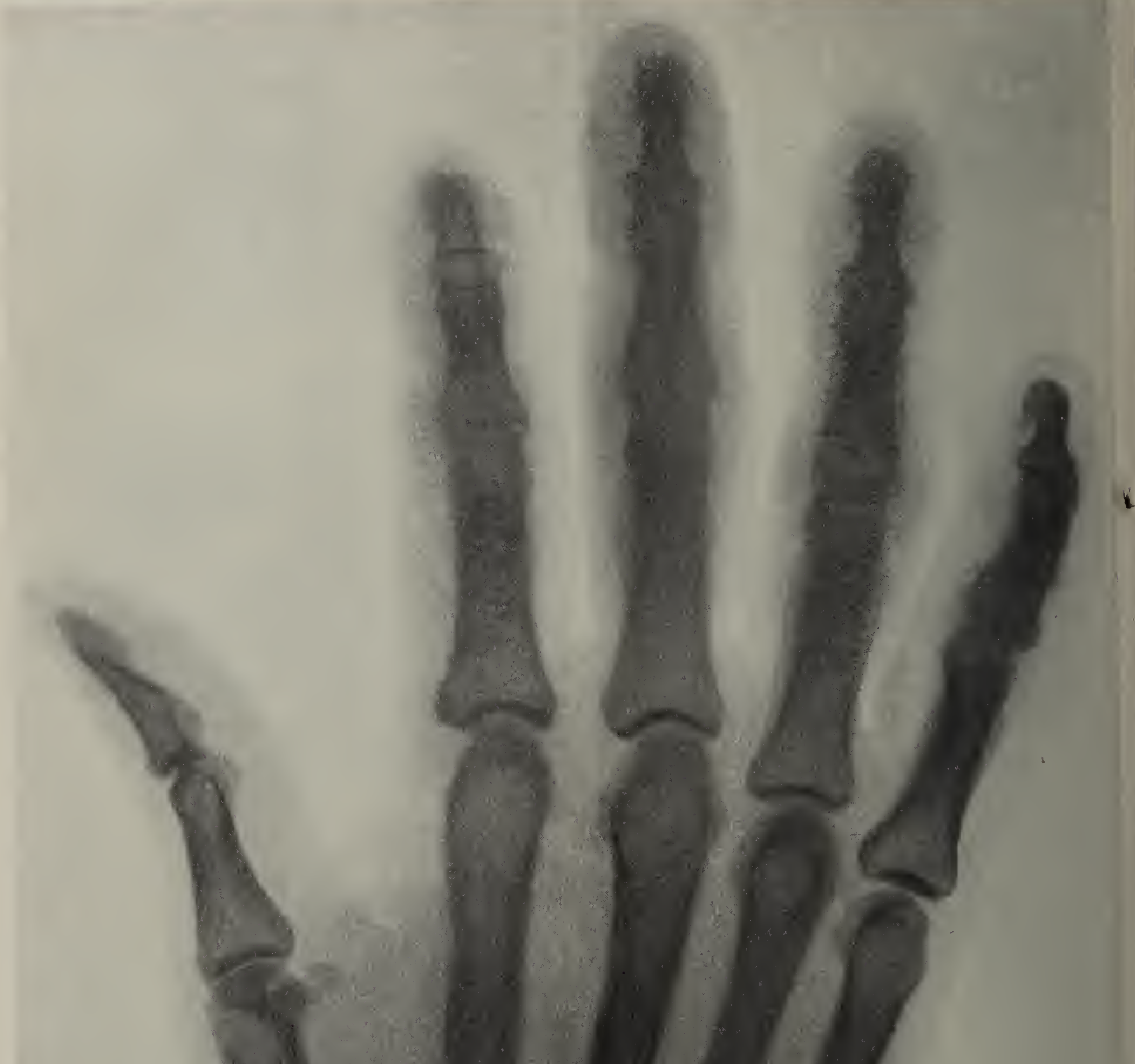
	Right.	Left.
	Inches.	Inches.
From tip of radius to end of thumb	$6\frac{3}{8}$	$6\frac{3}{8}$
From tip of radius to end of index finger	$8\frac{3}{8}$	$8\frac{1}{2}$
From tip of radius to end of middle finger	9	$9\frac{3}{8}$
Palmar circumference	$9\frac{3}{8}$	9
Circumference of thumb, first joint	$3\frac{3}{4}$	$3\frac{1}{2}$
Circumference of thumb, second joint	$3\frac{1}{2}$	$3\frac{1}{2}$
Circumference of index finger, first joint	$3\frac{3}{4}$	$3\frac{1}{2}$
Circumference of index finger, second joint	3	$3\frac{1}{2}$
Circumference of middle finger, first joint	$3\frac{3}{4}$	$3\frac{1}{2}$
Circumference of middle finger, second joint	3	$2\frac{7}{8}$
Circumference of third finger, first joint	$3\frac{5}{8}$	$3\frac{1}{4}$
Circumference of third finger, second joint	$3\frac{1}{4}$	$2\frac{5}{8}$
Circumference of fourth finger, first joint	$3\frac{3}{8}$	$3\frac{1}{4}$
Circumference of fourth finger, second joint	3	$2\frac{3}{4}$

In the Röntgen picture of the right hand I would call attention to the following points:

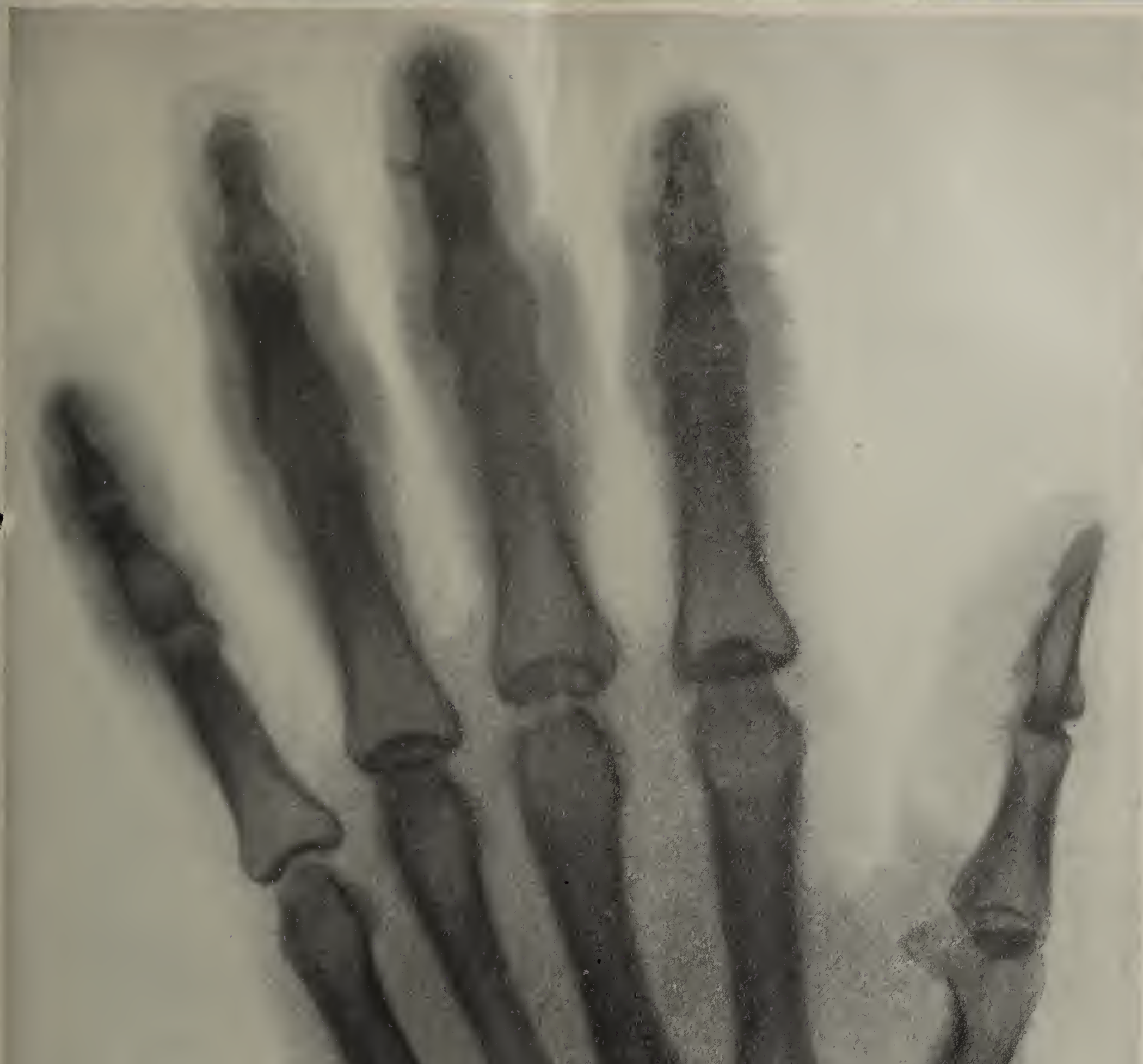
The thickening of the lower end of the ulna and radius, especially noticeable at the outer border of the ulna, shown by the fainter shadow bordering the outline of the old bone; the marked difference in appearance of the bones of the carpus from those in the left, and their very evident departure from the normal both in size and shape. In the metacarpal region please notice the area of thickening on the inner and outer borders of the shaft of the thumb, on the outer border of the first finger, at the distal extremities of the second and third fingers, and at the lower outer border and distal extremity of the fourth finger. In the phalangeal region, in the first row, the thickening on the inner border of the shaft of the first finger; the inner and outer borders of the shafts of the second, third, and fourth fingers; in the second row, the terminal enlargement of the distal extremity of the thumb; the marginal enlargement of the second, third, and fourth fingers; and in the terminal digits of the fingers, the marked hypertrophy of the muscular attachments. Of the hand, as a whole, please note the great length of the long bones. In the left hand note the area of enlargement on the outer border of the radius and the inner border of the ulna, and the very marked difference in appearance of the carpus from that of the right hand. In the metacarpal region the marginal thickening of the thumb; the distal enlargement of the four fingers and thickening on the outer border of the fourth finger. In the phalangeal region, in the first row, the hypertrophy on the upper and inner portion of the thumb, and on the shafts of the four fingers. In the second row, the marginal hypertrophy on all the digits, while in the terminal row, the mark-



Hasbrouck's case of hypertrophic pulmonary osteo-arthropathy, showing the aspect of the hands, but reduced one third in size.



Hasbrouck's case of hypertrophic pulmonary osteo-arthropathy. Right hand (natural size).



Hasbrouck's case of hypertrophic pulmonary osteo-arthropathy. Left hand (natural size).

edly distorted appearance of the muscular attachments, and the same elongation of the bones of the hand as a whole.

Treatment.—As the tumor under the jaw was evidently of the malignant type and on the rapid increase in size, a trial was made of the serum of erysipelas and prodigiosus. Beginning with half a minim, the dose was rapidly increased to five minims every other day, injected into the substance of the tumor, but the patient soon rebelled and the treatment was discontinued, and he received no treatment other than stimulants, and codeine to relieve the pain in his hands and feet. Later he pleaded to go to a hospital, and I sent him to Freedman's, where, through the courtesy of Dr. Williams, I was permitted to keep track of him.

In September he returned home and I saw him daily until his death, which occurred on the seventeenth, at which time he was exceedingly weak and emaciated, and breathed with the greatest difficulty.

At one time, during the course of the administration of the antitoxine, it appeared as though his hands were decreasing in size; the skin became wrinkled, and the fingers certainly were smaller; but in a few days the old condition returned as bad as ever. Still, it would have been interesting to have continued the use of the serum and noted results in this line.

Post-mortem.—This was obtained with difficulty, and I was not enabled to secure any of the enlarged members.

Height, about six feet two, spare; rigor mortis absent; tumor the size of a hen's egg below angle of right jaw; another, of the size of a pigeon's egg, anterior to sterno-mastoid about location of pomum Adami, and a number of smaller glands (supraclavicular). On right side of thorax dullness almost universal up to second rib. Left side normal. On opening chest, right pleural cavity filled with pale, yellowish-white fluid amounting to over a gallon; this gelatinized after removal. Pleura thickened, nodular, and pale. Large, apparently carcinomatous nodule posterior where lung is adherent to chest wall. Lung dark red, solid, with small carcinomatous nodules disseminated through its entirety; air spaces engorged with blood.

Left lung: Pleural cavity absent, and lung intimately adherent to pleura, crepitant and soft, somewhat engorged with blood, but not so extensively as the right.

Heart: Pericardium distended, containing about eight ounces of blood-tinged serum. Has had pericarditis. Pericardium smooth, except near apex, where adhesions to pericardium existed. Heart surface rough and ragged, with small yellow areas looking like fatty degeneration. General peritracheal, periœsophageal, and periaortic carcinomatous infiltration extending up into the neck, and continuous with the tumors previously mentioned. This infiltration matted the arch of the aorta, the trachea, and the œsophagus into one solid mass.

Liver: About normal in size; dark blue, except where carcinomatous nodules are present. General infiltration of liver with a number (three to four) of large carcinomatous growths, and two or three smaller ones, being most marked in the right and left lobes.

Spleen atrophied; cortex white and thick.

Kidneys: Both normal size. Left kidney contained small carcinomatous nodule on surface. In the right kidney there has been an infarction.

Pancreas negative; marked ascites.

The viscera were submitted to Dr. Reed, of the Army Medical Museum, who kindly furnished the following report:

DEAR DOCTOR: I beg to submit the following report of your specimen, donated to the museum on September 17, 1897:

The specimen consists of the right lung, with greater part of the trachea, the left main bronchus, the heart, and large blood-vessels. Heart is about normal in size; some recent lymph on posterior surface; several small, whitish subpericardial tumors at origin of the great vessels; also similar growths at the apex of pericardial sac.

Occupying the space in front and to the right of the trachea is seen an elongated tumor mass, which is quite firm, somewhat nodulated, and extending downward and filling the space between the main bronchi. Several enlarged bronchial glands are adherent to or included in the tumor. The right subclavian artery passes in front of and is firmly attached to the growth. The tumor also encroaches upon the superior vena cava. The upper part of the growth has been cut away, exposing a whitish-yellow surface, quite resistant to the touch. A number of yellowish-white, round nodules, the size of a pea, and others flattened, almond-sized, are scattered over the surface of the lung. These nodules are quite firm and, upon section, of a white color. Numerous white areas, some quite circular in shape and sharply defined, others larger and more diffused, are seen upon section of the lung. In the centre of these areas are found openings of bronchial tubes. There are also present in the middle lobe of the lung sharply defined areas, oval or circular, about ten millimetres in size, filled with a material of a peculiar translucent appearance. It was afterward ascertained that these areas represented dilated bronchial tubes, whose retained secretion had taken on the above appearance under the action of formalin.

The anterior wall of the trachea is much thickened and is closely bound to the tumor. Upon section of the trachea and main right bronchus, it is seen that the latter is narrowed, and that it is surrounded by a firm, dense white growth. This can be followed to the smaller divisions of the bronchi, where, in places, the growth is not limited to the immediate wall of the bronchus, but has infiltrated the surrounding lung parenchyma. The wall of the left main bronchus is also much thickened.

Microscopic examination of parts of the tumor shows its structure to be that of an alveolar sarcoma—viz., a fibrous stroma, rich in cells, inclosing numerous circular or oval-shaped spaces, which are occupied by medium-sized round or oval cells, having a rather deeply staining nucleus.

The same character of structure is found in sections of the enlarged bronchial glands, of the subpleural nodules, of the intrapulmonary new growths, and of a secondary nodule of the liver. Sections of parts of the lung not involved in the growth show considerable increase of the connective-tissue stroma, with chronic passive congestion and œdema. There were also found small areas of tuberculous caseation in both the lung and bronchial glands.

The tumor would appear to be a primary sarcoma of the anterior mediastinum, which has involved secondarily the lung. Very respectfully,

WALTER REED,
Surgeon, United States Army, Curator.

Pathology.—Very little appears to be known about the disease, and a glance, therefore, at the literature on the subject may not come amiss. Regarding the pathology, it is extremely unsettled. Marie has suggested that it is invariably dependent upon a primary lesion of the respiratory apparatus; that at the seat of this lesion toxines are produced by the action of micro-organisms, which are reabsorbed into the circulation and exercise a selective action upon certain parts of the osseous and articular systems, producing inflammatory troubles. This view is generally maintained by the French writers. In favor of this selective chemical origin is cited the example of gout, in which lesions are produced by the uric acid in the circulation not so very different. Marie admits that this theory is wanting in proof, but offers it as the best occurring to him, and draws a parallel between hypertrophic pulmonary osteo-arthropathy and the toxic pseudo-rheumatism of Bouchard.

Walters, of London, writing in 1896,* says: "Most reported cases have followed pleural effusion, especially if purulent; after this the chief causes have been chronic bronchitis and pulmonary tuberculosis." Several of the cases have been associated with lung troubles that most emphatically were not tuberculous. Two cases seem to have been due to syphilis, one of which was cured by antisyphilitic treatment.

Post-mortem examinations have been made of the bones by Bramberger, Therese, and Rauzier. They found in a variety of combinations increase of synovia, enlargement of the epiphysis, erosion of the cartilages in some of the joints, enlargement of the long bones just above the joints and sometimes along almost their entire length, thickening and adhesions of the periosteum in places, and the formation of wartlike growths of new bone within the periosteum, and occasionally, but more rarely, a central rarefying osteomyelitis.

As previously stated, my post-mortem was obtained with difficulty, and I found it impossible to bring away any of the enlarged members; but the Röntgen picture shows several things that would appear to be just these wartlike growths of new bone beneath the periosteum, while in other places the enlargement would appear to be purely periosteal in formation. This enlargement, while quite noticeable in various places in the metacarpal and phalangeal regions and in the ulna and radius, was in the negative quite noticeable in the carpal bones, but this, unfortunately, was not brought out clearly in the printing.

Associated Conditions.—"Turning now to the associated conditions, we find that in all but one case (that of Erb's) there has been some chest lesion, and as this case is somewhat cloudy it seems safe to assert a universal association with pulmonary disease." Indeed, Walters † states that "the majority of cases have been associated with conditions interfering with the aeration of the blood."

In the list we have sarcoma of the lung associated with chronic bronchitis, cancer of the lung with hæmorrhage, pleurisy, tuberculosis, syphilitic glandular enlargement, pneumonia, pleural effusion, chronic empyema, pulmonary congestion, pleurisy, with tuberculous cavities, bronchial catarrh, empyema of long standing, several cases of long-standing cough, with free expectoration, and my own case of sarcomatous infiltration of the thoracic viscera with tuberculosis.

Diagnosis.—Thorburn's diagnosis is so complete that I can not do better than repeat it. He says: "The clinical characters of hypertrophic pulmonary osteoarthropathy, as described by the French writers, are in many respects similar to those of acromegaly, but present important and sufficiently obvious differences. In the former disease the hands and feet are greatly and symmetrically enlarged, the enlargement involving the lower thirds or fourths of the forearms and legs; it implicates the bones and not the soft parts, and affects markedly the terminal phalanges, over which the expanded nails are spread out with a transverse and longitudinal curve and are very convex. The nails themselves are very large and bend over the ends of the fingers. Various long bones are often hypertrophied, especially at their ends, and effusion of fluid into the knees and other joints is common. The skull is not affected, nor are the lower jaw, the nasal or malar bones.

"The disease is of insidious onset and of long duration, and in most cases is accompanied by some form of chronic bronchial, pleural, or pulmonary disease, from which reason it is described as being of pulmonary origin.

"From *osteitis deformans* it differs widely, but especially in the absence of enlargement of the cranium. Myxœdema is perfectly distinct, and is characterized by thickening of the soft parts and not of the bones."

The disease is confined almost exclusively to adults, although we have records of four cases occurring in children, the youngest of whom (Davis's case) was only four years and a half old. The female sex would appear to be nearly exempt from it, as out of thirty-four cases only three are recorded among women.

In a few cases the onset is sudden and the disease runs a rapid course—this was notably so with Thayer's first case, in which a typical condition developed in six weeks, and in my own case, where, according to the patient's account, it began to appear about Christmas and was well developed at the close of March—three months. As a rule, however, the onset is very gradual, and the date of onset uncertain.

Conclusions.—1. In reviewing my case I think it very clear that the patient died from general sarcomatous infiltration.

2. That the disease of hypertrophic pulmonary osteoarthropathy was a disease secondary to that of sarcoma.

3. That in accordance with the evidence brought out by previous cases that the disease is due to some obstructive pulmonary lesion, my case substantiates this evidence in that the post-mortem showed a hardened

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* *British Medical Journal*, 1896, vol. i, p. 329

† *Ibid.*, 1893, vol. i, p. 1155.

mass firmly binding the aorta, the œsophagus, and trachea into one solid body, in addition to the sarcoma of the mouth, which almost occluded the upper air-passage, and the several sarcomatous areas in the right lung.

4. That had the primary condition or disease been less malignant in its nature, and given the secondary affection more time, a much more typical condition of the feet and legs would have developed, as it will be remembered that they were just beginning to share in the enlargement a month or so before death.

THREE YEARS OF SERUM THERAPY IN TUBERCULOSIS.

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My attention was first directed to the subject of serum therapy in tuberculosis in consequence of a paper read before the St. Louis Medical Society by Dr. Paquin in January, 1895, and published in the *St. Louis Medical and Surgical Journal* for March of that year. I at once began a clinical investigation of the subject, procuring some serum from Dr. Paquin in the spring of 1895. The first case in which it was used under my direction was one of tubercular broncho-pneumonia following *grippe*. It was employed at my suggestion by the physician who had called me in consultation. The patient improved materially.

Thus encouraged, I tried it on a number of cases, chiefly in my hospital clinic. Some cases showed initial improvement, followed, however, in nearly every instance by a subsequent breaking down. I used Paquin's serum for many months in several cases; but my expectations being unfulfilled, I ceased its further employment. In 1896 I began trial of a serum prepared by Dr. Crandall (bacteriologist to the Marion Sims College of Medicine, St. Louis), by immunizing horses with the old tuberculin of Koch. But in 1897 the further pursuit of this subject was abandoned by Dr. Crandall, and I was about to do the same when my attention was directed to a series of experiments then being made by Dr. C. Fisch, of St. Louis, who since the publication in the *Deutsche medicinische Wochenschrift* of April 1, 1897, of Koch's Remarks on Some New Tuberculin Preparations, had been attempting to immunize horses with the new tuberculin "T R," in the hope that in their serum would be found a substance truly antitoxic and bactericidal to the tubercle bacillus. I enjoyed the privilege of watching his work and laboratory experiments, which I did with great interest. They have since been made public in an able paper On the Antitoxic and Bactericidal Properties of the Serum of Horses treated with Koch's New Tuberculin T R. This paper was read before the Mississippi Valley Medical Association at Louisville in October last, and was published in the *Journal of the American Medical Association* of October 30, 1897.

These experiments impressed me so much, especially when coupled with the clinical observation of a few cases then under treatment, that I determined to make trial anew of serum therapy, using the new "antiphthisic serum, T R," of Fisch.

I will first briefly refer to those cases which I was permitted to watch, and shall then proceed to record the results of my three years' experience of serum therapy of various kinds, as applied to tuberculosis. As these cases will be hereafter reported in detail, I merely give brief notes now.

Case I.—A man, aged twenty-eight years; family history good; cough severe; expectoration considerable, and swarming with tubercle bacilli; pain in both lungs; continuous night sweats; emaciation; temperature, 101° to 102.4° F. Right lung, dull posteriorly, with moist râles in middle and upper lobes; anteriorly, middle lobe dull, bronchial breathing all over. Left lung intact, except a few fine râles in infraclavicular region. Six weeks later tubercle bacilli were unchanged; cough and expectoration much less; night sweats had ceased after two weeks; temperature, 98° to 99° F.; no râles, but slight bronchial breathing and dullness only in right lung; left lung free.

Case II.—A man, aged thirty-two years; a brother, sister, and father's brother had died of tuberculosis; cough; expectoration; tubercle bacilli and streptococci present; had had several hæmorrhages, also night sweats; temperature, 102° F., mornings, remaining high. Left lung, bronchial breathing; right lung, dullness from apex to third rib behind and to fourth rib in front; crackling over lower lobe; he was kept in bed during the first two weeks of treatment; after four weeks had gained five pounds; night sweats gone; cough and expectoration much less; very few tubercle bacilli; chest expansion had increased an inch. Three months later, no cough; weight increased eleven pounds. Left lung entirely free; right lung shows dullness in infraclavicular region in front; no moist sounds; feels better, looks better, and appears to have gained in every way.

Case III.—A man, aged thirty-six years; cough; expectoration profuse, tubercle bacilli swarming; night sweats severe; temperature, 100.2° to 102.6° F.; moist râles all over both lungs posteriorly, but no sign of consolidation. Six weeks later, night sweats stopped, general condition improved, weight increased, and chest expansion increased two inches; no abnormal sounds audible except some rough breathing in right suprascapular region and over lower lobe of right lung behind; has been working hard all along in unfavorable conditions in a warehouse; an intercurrent cold and *grippe* have been successfully surmounted.

I may say here that I had the privilege of examining these three cases as lately as March 21, 1898, and report herewith their present conditions:

Case I.—Left lung quite normal; right lung, slightly roughened breathing at apex, and slight comparative dullness; no râles; V. R. and F. seemingly about normal; very much improved in every way; had gained flesh; appearance improved. I am informed that he has been three times subjected to the old tuberculin test in increasing doses (last time of six milligrammes), and has failed to show any reaction; tubercle bacilli have been for a long time absent.

CASE II.—Improved in every way; feels and looks better; cough gone; expectoration ceased; has gained weight; there are no râles, and the only remaining evidence of former disease is a slight dullness under the right clavicle; the left lung is entirely free; bacilli gradually diminished and entirely disappeared some time ago; tested several times with old tuberculin; on last occasion failed to react to twelve milligrammes.

CASE III.—General appearance very much improved; cough and expectoration disappeared; left lung seemingly normal; no râles in right, but a slight dullness in infrascapular region, and blowing respiration at that point; there are still a few bacilli to be found. Although the improvement is great, that the disease is not yet entirely eradicated is evidenced by the fact that on February 6th he reacted with a rise of 3° F. to two milligrammes of old tuberculin.

I will now proceed with terse records of my own cases, which I have arranged in chronological order but in three groups, according as they were in the first, second, or third stage of phthisis. I should state that until quite recently I made no attempt to select my cases for treatment. In order that there may be no misunderstanding arising from differences of nomenclature, let me define here the three stages as I am accustomed to regard them: First stage, localized, incomplete consolidation, with or without bronchitis or lobular pneumonia; second stage, complete consolidation, with, in the latter part, *commencing* softening; third stage, breaking down of tissue and formation of cavities.

In this connection, it may not be amiss to enter a protest against the increasing disuse of the old method of examining sputum by boiling with liquor sodæ or potassæ, and microscopically examining the sediment for elastic fibres. Since the search for tubercle bacilli has become general this procedure seems to have been largely abandoned as superfluous; but while it is no longer necessary as an aid to the diagnosis of phthisis, it is still of great service as showing whether or no the disease has arrived at the process of disintegration. Attention may at the same time, and for the same purpose, be also directed to the characters of epithelium found in any numbers in the sputum, as indicating its source, whether from the bronchial tubes or the alveoli. In the latter case the epithelial cells are more numerous, more highly pigmented, and tessellated in character, and are indicative of disintegrating processes at work.

My cases are as follows:

STAGE I.

CASE I. *Infection Simple; Cured.*—Miss F., aged eighteen years; sick six months; commenced treatment, September 6, 1895; cough, expectoration, tubercle bacilli only. Temperature, 97° to 101° F.; pulse weak, 105; weight, a hundred and ten from a hundred and thirty pounds; no hæmorrhage or night sweats. Right lung, apex dull; V. R. and F. increasing; blowing and cogwheel respiration; no râles. Treated seven months—Paquin's serum, September, 1895, to January, 1896; Crandall's, from January, 1896, for three months longer. Gained ten pounds. Discharged well. Now in good health.

CASE II. *Infection Simple; Cured.*—Miss D., aged seventeen years; sick eight months; commenced treatment, February, 1896; cough, expectoration, tubercle bacilli present. Temperature, 98° to 100° F.; pulse, 90; weight, a hundred and sixteen from a hundred and twenty-six pounds; no hæmorrhages or night sweats. Left lung, apex dull; V. R. and F. increased; blowing and cogwheel respiration; mucous clicks. Treated six months—Crandall's serum. Gained seven pounds. Discharged well. Is now in good health.

CASE III. *Infection Simple; Cured.*—Mrs. T., aged twenty years; sick one year; commenced treatment, April 10, 1896; cough, expectoration, tubercle bacilli present. Temperature, 97.5° to 100° F.; pulse, 110; weight, a hundred and twenty from a hundred and thirty-five pounds; no hæmorhage or night sweats. Right lung, apex dull; V. R. and F. increased; bronchial breathing; chest retracted; subcrepitant râles pretty generally on right side. Treated four months—Crandall's serum. Discharged well, August 10, 1896. Now in good health.

CASE IV. *Infection Simple; Cured.*—Miss S. Y., aged twenty-four years; sick one year; commenced treatment, September, 1896; cough, expectoration, tubercle bacilli present. Temperature, 97.5° to 101° F.; pulse, 90; weight, a hundred and nineteen from a hundred and fifty pounds; no hæmorrhages or night sweats. Right lung, apex dull; V. R. and F. increased; bronchial breathing; bronchophony; mucous clicks; occasional fine râles. Left lung normal. Treated five months—Crandall's serum; weight, a hundred and thirty-five pounds; temperature normal. Since married; has a baby now six months old, which weighs twenty-three pounds; healthy; mother nursed it. Patient now in excellent health.

CASE V. *Infection Simple; Cured.*—Mrs. J. F. E., aged twenty-nine years; sick three years; commenced treatment, September, 1896; cough severe, expectoration profuse, tubercle bacilli present. Temperature, 97.5° to 99.5° F.; pulse, 88; weight, a hundred and thirty from a hundred and forty-five pounds; no hæmorrhage or night sweats. Left lung, apex dull; V. R. and F. increased; bronchial respiration; bronchophony; medium moist râles; right lung normal. Treated two months—Crandall's serum; weight increased to a hundred and forty-eight pounds. Returned in 1897; treated three months—Fisch's serum; cough gone; expectoration gone; bacilli not to be found; physical signs all gone except slight dullness. Now in good health.

CASE VI. *Infection Simple; Improved; Ceased; Died.*—W. H., male, aged thirty-two years; sick one year and a half; commenced treatment, September 1, 1897; cough, expectoration, tubercle bacilli present. Temperature, 97.5° to 101° F.; pulse, 100; weight, a hundred and twenty from a hundred and thirty pounds; no hæmorrhages or night sweats. Right lung, apex dull; V. R. and F. increased; blowing and cogwheel respiration; bronchophony and isolated râles. Left lung, dullness not so pronounced; V. R. and F. increased; bronchophony; bronchial breathing, but no râles. Treated one month—Fisch's serum; discontinued for eight days; had a hæmorrhage, too profuse to be accounted for by the condition of the lungs (aneurysm?), and died. Postmortem not permitted. During treatment the temperature fell, and patient felt better and stronger.

Case VII. *Infection Simple; still improving, though treatment stopped.*—H. S., male, aged thirty-one years; sick nine months; commenced treatment, November 15, 1897; cough, expectoration, tubercle bacilli present. Temperature, 98° to 100° F.; pulse, 94; weight, a hundred and forty-five from a hundred and seventy-five pounds; no hæmorrhage or night sweats. Right lung, apex dull; V. R. and F. increased; bronchial and cogwheel breathing; bronchophony; mucous clicks. Left lung, apex dull; same as right, but not so bad. Treated ten weeks—Fisch's serum; general improvement; gained fifteen pounds. Temperature normal; cough less; bacilli disappeared; ceased treatment and went to work; is doing well and continues to improve. (N. B.—I have often noticed that in suitable cases the improvement continues after the cessation of treatment.)

Case VIII. *Infection Simple; still improving under Treatment.*—H. H., male, aged twenty-four years; sick six months; commenced treatment, January 1, 1898; has secondary syphilis; cough, expectoration, tubercle bacilli present. Temperature, 98° to 99.5° F.; pulse, 84; weight, a hundred and twenty-eight from a hundred and fifty-five pounds; has had slight hæmoptysis; no night sweats. Right lung, apex dull; blowing and cogwheel respiration; numerous clicks and medium râles; bronchophony. Posteriorly above scapula, dullness and medium râles. Left lung normal. Treated nine weeks—Fisch's serum; gained seven pounds; cough slight in the morning; expectoration diminished; could not find tubercle bacilli last time, after repeated examination; feels and seems better in every way; still under treatment. March 31st, examined H. H. to-day and find him much improved, although he has discontinued treatment for two weeks.

STAGE II.

Case I. *Infection Mixed; Cured.*—Miss P., aged twenty-three years; sick one year; commenced treatment, July, 1895; cough, expectoration, tubercle bacilli, streptococci, and staphylococci. Temperature, 96° to 102° F.; pulse, 115, weak; weight, a hundred and seven from a hundred and thirty pounds; night sweats; no hæmorrhages. Right lung, apex dull; V. R. and F. increased; mucous clicks; subcrepitant râles; bronchial breathing; bronchophony. Left lung normal. Treated six months—Paquin's serum; did not improve much, if any; Crandall's serum for seven months, from January, 1896; gained eleven pounds. Discharged well, August, 1896. Is now in good health.

Case II. *Infection Simple; Cured.*—A. C. W., male, aged twenty-five years; sick six months; commenced treatment, May 10, 1896; cough, expectoration profuse, tubercle bacilli only. Temperature, 99° to 101° F.; pulse, 94; weight, a hundred and twenty-three from a hundred and thirty-six pounds; night sweats; no hæmorrhages. Right lung, chest retracted; apex dull; consolidation complete; V. R. and F. increased; medium and fine moist râles; bronchial breathing; bronchophony. Treated six months—Crandall's serum; gained eleven pounds. Is now well.

Case III. *Infection Simple; Improved; Ceased.*—G. W. C., male, aged thirty-five years; sick three years; commenced treatment, June 17, 1896; cough severe; expectoration profuse and mucopurulent, tubercle bacilli only; not numerous. Temperature, 101° F.; pulse, 100; weight, a hundred and twenty-five from a hundred and forty pounds; appetite and sleep fair; one hæmorrhage; night sweats; both lungs dull at apex; V. R. and F. increased; blowing respiration; bronchophony; small moist râles. Treated eleven weeks—Crandall's serum; gained eleven pounds; râles disappeared, dullness remaining; bacilli materially diminished and became "beaded." Ceased treatment and went to Las Vegas, New Mexico. Fell sick again, and died about a year later.

Case IV. *Infection Simple; Much Improved; Ceased.*—Mrs. A. H. H., aged thirty years; sick two years; commenced treatment, August 11, 1896; cough, expectoration profuse, tubercle bacilli only. Temperature, 99.5° F.; pulse, 96; weight, a hundred and forty from a hundred and sixty pounds; no hæmorrhages or night sweats. Left lung, apex dull; V. R. and F. increased; bronchial breathing and bronchophony; medium moist râles; right lung normal. Treated six weeks—Crandall's serum; gained in every way. Temperature normal; weight, a hundred and fifty-two pounds and a half; cough and expectoration less; bacilli fewer; râles diminished. Three months later: Not much loss, but cough worse; meantime has had a miscarriage; returned for treatment with Fisch's serum, July, 1897. Treated four months. Regained original weight, and much improved in every way. Still doing well.

Case V. *Infection Mixed; No Improvement; Died.*—J. W., a man, aged thirty-five years; sick nine months; commenced treatment, September 15, 1896; cough, expectoration profuse, tubercle bacilli, streptococci, and staphylococci. Temperature, 100° to 103° F.; pulse, 115; weight, a hundred and thirty-five from a hundred and seventy pounds; three hæmorrhages; night sweats. Right lung, apex dull, and well down front; V. R. and F. increased; bronchial breathing; bronchophony; slight râles; left lung normal. Treated four months—Crandall's serum; no improvement; died four months after ceasing treatment.

Case VI. *Infection Simple; Cured.*—Mrs. A., aged twenty-seven years; sick eight months; commenced treatment, July, 1897; cough, expectoration, tubercle bacilli numerous. Temperature, 98° to 101° F.; pulse, 90; weight, a hundred and nine from a hundred and twenty-five pounds; no hæmorrhages or night sweats. Right lung, apex dull; V. R. and F. increased; numerous fine clicks and râles; bronchial breathing; bronchophony; left lung normal. Treated nine weeks—Fisch's serum; bacilli entirely disappeared in eight weeks; none found after repeated examination; gained thirteen pounds; temperature normal; is now as well as ever.

Case VII. *Infection Mixed; Improved; Ceased.*—Miss S. B., aged twenty-four years; sick nine months; commenced treatment, August 20, 1897; cough, expectoration profuse, tubercle bacilli and some streptococci. Temperature, 97.5° to 100° F.; pulse, 96; weight, a hundred and fifteen from a hundred and thirty-five pounds; one hæmorrhage; night sweats. Right lung, apex dull; V. R. and F. increased; blowing and cogwheel respiration; bronchophony; disseminated large and medium mucous râles; left lung normal. Treated six weeks—Fisch's serum; gained thirteen pounds; temperature normal; improved in every way; not seen since.

Case VIII. *Infection Simple; Improved; Ceased.*—T. M., a man, aged twenty years; sick a year and six months; commenced treatment, August 23, 1897; cough, expectoration, tubercle bacilli only. Temperature, 97.5°

to 100.5° F.; pulse, 80; weight, a hundred and twenty-two and a half from a hundred and thirty-four pounds; one hæmorrhage; night sweats. Right lung, extensive dullness; V. R. and F. increased; bronchial breathing; bronchophony; medium moist râles; left lung normal. Treated five weeks—Fisch's serum; was doing well; ceased treatment; not seen since.

STAGE III.

Case I. *Infection Mixed; Improved; Died.*—J. S., a man, aged twenty-two years; sick three years; commenced treatment, April, 1895; cough severe, expectoration profuse, tubercle bacilli and septic organisms. Temperature, 96° to 104° F.; pulse, 96; weight, a hundred and thirty-one from a hundred and sixty pounds; numerous hæmorrhages; night sweats severe. Right lung, dullness over entire lung; chest retracted; V. R. and F. increased; bronchial breathing; bronchophony; large, medium, and fine moist râles; cavity at apex, cavernous respiration, gurgling, and pectoriloquy. Left lung, dullness less marked and at apex only; V. R. and F. increased; bronchial breathing; bronchophony. Treated fifteen months — Paquin's serum, twelve months; Crandall's in the fall of 1897 for three months; gained seven pounds; died, January, 1897.

Case II. *Infection Mixed; Improved; Died.*—Mrs. W., aged thirty-one years; sick two years; commenced treatment, May, 1895; cough, expectoration, tubercle bacilli and septic organisms. Temperature, 97.5° to 104° F.; pulse, 90 to 120; weight, a hundred and fifteen from a hundred and forty-five pounds; two hæmorrhages; night sweats. Right lung, dullness all over; cavity at apex with cavernous respiration, pectoriloquy, cracked-pot sound, and gurgling. Left lung, dullness at apex extending to fourth rib; V. R. and F. increased; moist râles; bronchial breathing; bronchophony. Treated seven months—Paquin's serum; improved slightly at first; no change in lung. Died, November, 1895.

Case III. *Infection Mixed; Improved; Died.*—Mrs. A., aged twenty-seven years; sick eighteen months; commenced treatment, May, 1895; cough, expectoration, tubercle bacilli, and septic organisms. Temperature, 98° to 103.5° F.; pulse, 90 to 125; weight, a hundred and eleven from a hundred and thirty-five pounds; hæmorrhage; night sweats. Right lung, dull from apex to base; V. R. and F. increased; bronchial breathing; bronchophony; medium and fine moist râles; cavity at apex behind; cavernous respiration, gurgling, pectoriloquy. Left lung, apex dull; V. R. and F. increased; bronchial breathing; bronchophony; medium and fine moist râles. Treated nine months—Paquin's serum; gained twelve pounds in first three months; then lost steadily, and died January, 1896.

Case IV. *Infection Mixed; No Improvement; Died.*—Mrs. L., aged thirty-five years; sick two years; commenced treatment, June 1, 1895; cough, expectoration, tubercle bacilli and septic organisms. Temperature, 97.5° to 104° F.; pulse, 95 to 130; weight, a hundred and fifteen pounds from a hundred and forty-five pounds; night sweats; no hæmorrhages. Right lung, dullness over entire lung; V. R. and F. increased; bronchial breathing all over; bronchophony; cavity at apex, cavernous respiration, gurgling, cracked-pot sound, pectoriloquy; left lung, dullness all over; V. R. and F. increased; bronchophony; blowing respiration; moist râles, medium and small. Treated eleven months—Paquin's serum. No improvement. Died, May, 1896.

Case V. *Infection Mixed; Slight Improvement; Died.*—Mrs. W., aged thirty-two years; sick two years; commenced treatment, June, 1895; cough, expectoration, tubercle bacilli, septic organisms. Temperature, 97.5° to 103° F.; pulse, 110; weight, a hundred and fifteen from a hundred and fifty pounds; night sweats; no hæmorrhages. Right lung, dull from apex to base; V. R. and F. increased; bronchial breathing; bronchophony; moist râles and large and medium over entire lung; no cavity. Left lung, apex dull down to fourth rib; V. R. and F. increased; bronchophony; blowing respiration; moist râles, medium and small; no cavity. Treated six months—Paquin's serum; improved slightly, gained five pounds, then lost rapidly. Died, January, 1896.

Case VI. *Infection Mixed; Slight Improvement; Died.*—Mrs. C., aged thirty years; sick three years; commenced treatment, July 25, 1895; cough, expectoration, tubercle bacilli, septic organisms. Temperature, 98° to 103° F.; pulse, 100 to 130; weight, a hundred and ten from a hundred and thirty-five pounds; one hæmorrhage; night sweats. Right lung, apex dull down to fourth rib; V. R. and F. increased; blowing respiration; bronchophony; râles; no cavity. Left lung, apex dull down to third rib; V. R. and F. increased; blowing and cogwheel respiration; bronchophony; moist râles; cavity under clavicle; cavernous respiration, gurgling, pectoriloquy. Treated four months—Paquin's serum; slight subjective improvement at first, but grew rapidly worse, and died December 1, 1895.

Case VII. *Infection Mixed; Improved; Ceased; Died.*—G. B. M., a man, aged twenty-seven years; sick two years; commenced treatment, June 5, 1896; cough, expectoration, tubercle bacilli, septic organisms. Temperature subnormal to 101.5° F.; pulse, 95; weight, a hundred and ten from a hundred and thirty-five pounds in six months; night sweats; no hæmorrhages. Right lung, apex dull; V. R. and F. increased; harsh bronchial breathing and prolonged expiration. Left lung, apex dull; V. R. and F. increased; bronchial and cogwheel breathing; mucous râles, coarse, medium, and fine; infraclavicular cavernous respiration, mucous râles, and whispering pectoriloquy. Treated eight weeks—Crandall's serum; gained seven pounds in three weeks; gain continued about one pound a week till he stopped treatment; râles less numerous, other conditions much the same; breathing easier; afternoon temperature fell to 99° F.; cough and expectoration less; is since dead.

Case VIII. *Infection Mixed; Improved at first, but Died.*—J. K., a man, aged twenty-nine years; commenced treatment, June, 1896; cough severe, expectoration profuse, tubercle bacilli and septic organisms. Temperature, 96° to 104° F.; pulse, 103; weight, a hundred and twenty from a hundred and fifty-five pounds; hæmorrhages; night sweats. Right lung, infraclavicular dullness, more or less all over; very great retraction of chest wall; V. R. and F. increased; bronchial breathing; bronchophony; cavernous respiration posteriorly above scapula, also pectoriloquy; all râles. Left lung, general broncho-pneumonia. Treated eleven months—Crandall's serum; improved for first few months and gained ten pounds; grew worse in the fall, and died April, 1897.

Case IX. *Infection Mixed; No Improvement; Died.*—C. R., a man, aged thirty years; sick a year and six months; commenced treatment, July 1, 1896; cough severe, expectoration profuse and mucopurulent, tubercle bacilli and septic organisms. Temperature subnormal to 104° F.; pulse, 130; appetite and sleep poor; very weak; night sweats; no hæmorrhages. Right lung, dull all over; V. R. and F. increased; bronchial and blowing respiration; bronchophony; cavity at apex; cavernous respiration; pectoriloquy, gurgling; coarse, medium, and fine râles. Left lung, apex dull; moist râles of all kinds; no gurgling; bronchial breathing; bronchophony. Treated two weeks—Crandall's serum; no improvement. Died about two weeks later.

Case X. *Infection Mixed; Improved; Ceased; Died.*—E. B. J., a man, aged thirty-five years; sick two years; commenced treatment, August 2, 1896; cough, pain, expectoration profuse and mucopurulent; tubercle bacilli very numerous, also septic organisms. Temperature subnormal to 104° F.; pulse, 125; weight, a hundred and twenty from a hundred and sixty pounds; appetite poor; sleep bad; two hæmorrhages; night sweats. Right lung, dullness all over; V. R. increased, V. F. diminished; bronchial breathing; bronchophony; moist râles all over; cavity at apex, cavernous breathing, gurgling, and pectoriloquy. Left lung, apex dull; V. R. and F. increased; bronchial breathing; bronchophony; mucous râles, coarse and medium. Treated five weeks—Crandall's serum; improved; gained eight pounds. Temperature fell to 102.5° F.; appetite and sleep improved. Discontinued treatment and died six months later.

Case XI. *Infection Mixed; No Improvement; Died.*—J. C., a man, aged twenty-three years; sick two years; commenced treatment, August 15, 1896; cough severe, expectoration profuse, tubercle bacilli numerous, also septic organisms. Temperature, 97.5° to 103.5° F.; pulse, 88 to 115; weight, a hundred and six from a hundred and forty; two hæmorrhages; night sweats. Right lung, dull all over; V. F. and R increased; bronchial breathing; bronchophony; râles of all kinds; cavity at apex, cavernous breathing, gurgling, pectoriloquy, and whispering bronchophony; cracked-pot sound. Left lung, dullness; V. R. and F. increased; bronchial breathing; bronchophony; medium moist râles. Treated four months—Crandall's serum; no improvement at any time. Died, December, 1896.

Case XII. *Infection Mixed; Improved; Ceased; Died.*—Mrs. D., aged thirty years; sick three years; commenced treatment, September, 1896; cough severe, expectoration profuse, mucopurulent, tubercle bacilli and septic organisms. Temperature, 97° to 103° F.; pulse, 115; weight, a hundred and fifteen from a hundred and fifty pounds; appetite poor, also sleep; night sweats severe; two hæmorrhages. Right lung, dullness over upper half; V. R. and F. increased; blowing, harsh breathing; bronchophony; large and medium moist râles; cavity, cavernous respiration and gurgling under clavicle. Left lung, apex slightly dull; V. R. and F. increased; few small, moist râles. Treated seven weeks—Crandall's serum; gained ten pounds. Temperature fell to 100.5° F.; appetite and sleep improved; cough also; râles diminished; ceased treatment. Died a year later.

Case XIII. *Infection Mixed; No Improvement; Died.*—E. E., a lad, aged nineteen years; sick eighteen months; commenced treatment, September 1, 1896; cough terrible, expectoration profuse, tubercle bacilli and septic organisms. Temperature, 99° to 104° F.; pulse, 90 to 120; weight, a hundred and fifteen from a hundred and fifty pounds; two or three hæmorrhages; night sweats. Right lung, dull all over; V. R. and F. increased; bronchial breathing; bronchophony; all râles; cavity under clavicle, gurgling, cavernous respiration, pectoriloquy. Left lung, upper lobe, broncho-pneumonia. Treated four months—Crandall's serum; lost all the time. Died four months after stopping treatment.

Case XIV. *Infection Mixed; Improved; Ceased; Died.*—Miss M., aged twenty-three years; sick six months; acute tuberculosis; commenced treatment, September 5, 1897; cough, expectoration, tubercle bacilli and septic organisms. Temperature, 97.5° to 105° F.; weight, a hundred and eight from a hundred and forty pounds; night sweats; no hæmorrhages. Lungs, dullness at both apices; broncho-pneumonia; fine moist râles over both lungs; cavity at left apex; bronchial and cogwheel respiration; bronchophony. Treated six weeks—Fisch's serum. Temperature fell to 101.5° F.; weight and strength improved; general improvement; ceased treatment; died three months later. Was bedridden at commencement of treatment, but improved so as to be able to get down stairs under treatment.

Case XV. *Infection Mixed; Improved; Ceased; Died.*—Mrs. H., aged twenty-three years; sick eighteen months; commenced treatment, October, 1897; cough, expectoration, tubercle bacilli and septic organisms. Temperature, 97.5° to 103° F.; pulse, 118; weight, a hundred and twenty-one from a hundred and sixty-one pounds; night sweats; slight hæmorrhages. Right lung, dullness all over; V. R. and F. increased; all râles; broncho-pneumonia; bronchophony and bronchial breathing. Treated three weeks—Fisch's serum; appetite, looks, weight, and general condition improved; discontinued in consequence of severe febrile and local reactions; temperature did not subside. Died three months after cessation of treatment.

An analysis of these thirty-one cases leads us to the following observations:

Of eight first-stage patients, one died of very profuse sudden hæmorrhage, the cause of which is unknown, but circumstances would suggest aneurysm rather than lung trouble. Five were (provisionally) cured and are at present well; two are still progressing in that direction, one being yet under treatment and one having ceased.

Of eight second-stage patients, three are (provisionally) cured; three improved during treatment, one of whom is now doing well, the two others have been unfortunately lost sight of. One improved during treatment, but died a year after ceasing. One (having mixed infection) showed no improvement, but died.

But when we come to the third-stage cases a very different picture is presented. These, fifteen in number, were all cases of mixed infection, and all the patients died. It is well known that it is from septic conditions that the majority of phthisical patients die, and not directly from tuberculosis. The tubercle bacillus (save when it comes in overwhelming force and rapidly destroys the patient from acute miliary tuberculosis, as in Stage III, Case XIV) is rather a predisposing cause of death by leading to toxæmic, ulcerative, and disintegrating processes that afford an admirable culture medium for various septic organisms, than a source of actual danger in itself. In this class, accordingly, we find that while eleven out of fifteen showed some temporary improvement (and, as is well known, there is a great tendency in phthisical patients to show improvement, chiefly of a subjective nature, and probably psychical in character, at the beginning of almost *any* new treatment), they all sooner or later broke down, whether the treatment was continued or not, and ultimately died; while four cases showed absolutely no improvement at all. We must, therefore, reluctantly come to the conclusion that at present, serum treatment, while offering brilliant prospects in the first stage, and reasonable hopes in the early second before disintegrating processes are fully established, shows practically little gain later in the second stage, and none at all in the third. Until, therefore, the average value of serum treatment in the early stages shall be established to the satisfaction of the profession, *its use in third-stage cases is to be strongly deprecated,* lest its failure there should form a mass of misleading statistical evidence (as witness a paper by Dr. Waxham in the *Journal of the American Medical Association* of March 19, 1898) discrediting its real value in incipient tuberculosis. These late cases are, however, probably only temporarily excluded from the range of serum therapy. The entire subject is still in its infancy, and finality is certainly far off. From the evidence of occasional cases, of which excellent examples appear in the admirable paper by Petruschky in the *Deutsche medicinische Wochenschrift,* 1897, Nos. 39 and 40, on The Treatment of Tuberculosis after Koch, I am led to hope that in the late second and early third stages of the disease, even with mixed infection, provided only that disintegration has not proceeded so far as to leave insufficient lung tissue to carry on the functions of life, future research may yet find a means of enabling favorable results to be frequently obtained.

It may not be out of place to make here a few remarks on the comparison between serum treatment and that by various forms of tuberculin. The tuberculin treatment has been very unjustly decried. This is partly due to the same want of discrimination which threatens, as has already been pointed out, to do injustice to the serum treatment, and partly to the fact that there is undoubtedly some danger inherent in the reactions which follow its employment. The recent researches of Ehrlich on the nature of "antitoxines" make it manifest that the principle of active immunizaion aimed at in the tuberculin treatment depends upon the vital capacity of the organism to produce those specific groups of molecules in the cells which, in a manner somewhat similar to what we are accustomed to imagine in graphic chemical formulæ, seize hold of and bind the toxines. It is clear, therefore, that it can only be used with advantage in cases where the vital resistance is not too much lowered (high temperature, excessive anæmia, etc.). In these latter cases the serum treatment is preferable, as making no call upon the broken-down vitality, but itself supplying the needed binding molecular groups. One word more. Every pathologist knows that healed tuberculous lesions are frequently found on the post-mortem table in cases where phthisis has never been suspected during life, thus clearly proving that it often undergoes spontaneous cure. Moreover, there is no dispute about the results oftentimes obtained by purely hygienic and climatic treatment in the early stage. The advocates of these treatments are wont to say, therefore, "If you can only cure those cases which we cure, where is the advantage of your serum therapy?" The answer is easy—so easy that it is a wonder to me that the question is ever asked. Petruschky has anticipated this objection in his paper, above referred to, On the Treatment of Tuberculosis after Koch. What he there says with reference to tuberculin applies also to serum. No one denies that good results are often obtained by climatic and other agencies. The question is, How can they be obtained most quickly, most certainly, and with the greatest degree of permanency? And indications seem clearly on all these points to be directing us toward serum therapy for the answer.

By all means give every patient who can obtain them the additional advantage of climatic and hygienic surroundings; but how many are there by whom such aids are absolutely unattainable; who *must* stay in harness till they drop? If serum therapy can only do for them what climatic and hygienic agencies do for others, will it not have fairly established a claim to gratitude at the hands of mankind? But even in regard to those who are able to secure the latter advantage, one consideration still presents itself. It is notorious that many who, leaving unfavorable climatic conditions, unhygienic surroundings, and the predisposing causes of their ordinary existence, get "cured" in a healthier climate, better sanitary environment, and freedom from the wear and tear of their ordinary life, are well only so long as they remain where they are, and immediately begin to fail on their return to their former conditions. Hance, Loomis, and others have placed on record their observation that there is a greater percentage of relapses among those treated with climatic or hygienic methods than among those treated by the tuberculin of Koch; and the same holds good of serum treatment. If, therefore, serum therapy can cure early cases of tuberculosis without removing them from their domestic surroundings, which entails on them the great expense of an idle life away from home, while at the same time curtailing their ability to meet that expense by cutting short their means of livelihood, is it not a great boon on that score alone?

Evidence is rapidly accumulating on this head, and it seems to me that it is the positive duty of those members of the profession at least, whose practice brings them largely in contact with pulmonary tuberculosis, to add their quota of actual experience to the collective investigation of this most important subject.

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A Congress of Medical Ethics.—We learn from the *British Medical Journal* for April 30th that among other congresses to be held in Paris in 1900 a proposal is made for one to discuss questions of medical ethics and polity.

GONECYSTITIS.*

By WINFIELD AYRES, M. D.

INFLAMMATION of the seminal vesicles is of quite common occurrence in a large genito-urinary practice. Of one thousand and fourteen cases applying for treatment in my class at Bellevue Dispensary between March 1 and November 1, 1897, thirty were cases of seminal vesiculitis, while thirty-five were cases of epididymitis. Many of these cases were of long standing and had gone the rounds of the dispensaries trying to get rid of their symptoms. Of these thirty patients I have been able to cure twelve, two are still under treatment, and the rest disappeared after the pain and discharge had been relieved.

Anatomy.—I shall not give a complete description of the anatomy, simply stating that the vesicles lie at the base of the bladder, the posterior extremities being opposite the entrance of the ureters. The ampullæ of the vasa deferentia lie to the inner side. The duct of the vesicle joins that of the vas at an acute angle at the posterior border of the prostate to form the ejaculatory duct, which empties into the sinus pocularis. The vesicles are about two inches and a half in length, half an inch in width, and a quarter of an inch in thickness. To the finger they feel firm and are easily outlined in some subjects. It is impossible to reach the top of the vesicle with the ball of the finger in a muscular or fat subject, but in a thin subject the whole vesicle may be mapped out.

Pathology.—Normally, the vesicle contains a thin, mucous fluid, holding the spermatozooids in active motion. This fluid can not be expressed by the finger except in an occasional case where the vesicle is much distended. When the vesicle becomes inflamed it increases in size, is much softer, and is often not distinctly felt, owing to the surrounding infiltration. The contents of the vesicle become much thicker and often contain large masses of inflammatory exudate.

Ætiology.—The most common exciting cause is gonorrhœa. Stricture is often the exciting cause; the subacute inflammation of the posterior urethra, which so often accompanies stricture, extending to the vesicles. Other exciting causes are tuberculosis and syphilis. Excessive venery and masturbation are said to be a common cause, but where the disease occurs in a masturbator who has never had gonorrhœa there is always a stricture at or near the bulb, and the cause of the affection is the stricture and not masturbation. Gonecystitis occurs most frequently between the ages of twenty-five and thirty-five years. I have found it more frequently on the left side than on the right.

Classification.—Acute, subacute, and chronic.

Acute gonecystitis is almost always due to gonorrhœa, yet the tuberculous may take on acute symptoms. The inflammation may be on one or both sides, and may or may not be accompanied by epididymitis. In my thirty cases three were of the acute variety.

The subacute and chronic forms are very much alike in their cause and symptoms, so I shall describe them together. They are due in the great majority of cases to gonorrhœa. Of the remaining twenty-seven cases, twenty-four were due to gonorrhœa or stricture, two were due to syphilis, and one was due to tuberculosis.

Symptoms.—In the acute form the general symptoms are quite well marked. The patient feels weak and rapidly loses in weight. The temperature usually rises, sometimes as high as 103° or 104° F. The appetite is disturbed and the bowels are constipated. Evacuations are painful. There is usually considerable pain referred to the back, to the suprapubic region, or to the groin. Sometimes the pain takes the form of a sciatic neuralgia. There is a burning sensation at the end of the penis on passing water. Frequency with but little urgency of urination is usually present. The urine contains a large amount of pus in both specimens, and often pus or blood clots. These clots are sometimes in the shape of a cast of the vesicle. In cases in which the inflammation has lasted from a week to ten days there are apt to be frequent seminal emissions. Rectal examination will show one or both vesicles to be enlarged, tender, hot, and often pulsating.

The subacute and chronic forms usually begin by the slow extension of inflammation from the posterior urethra, but they may follow an acute attack. The symptoms are very varying and indefinite. There are usually the morning drop, a burning sensation in the end of the penis on urination, and indefinite pain in the groin, in the back, and over the suprapubic region. These symptoms may one or all be absent, the only thing complained of being a frequently recurring discharge. In other cases the patient may complain of occasionally passing very muddy urine, which often contains large pus clots. The urine is very characteristic. If there is considerable pus present, it will be in both specimens and have a more flaky appearance than in urethritis or cystitis. If the urine is comparatively clear, the shreds are apt to float near the surface and have the appearance of being diffuse, often looking, as one patient expressed it, " like chewed-up strings." The glairy mucous shred of prostatorrhœa is often present.

Sexual intercourse is often disturbed. In many cases ejaculation occurs almost as soon as, sometimes before, the penis is introduced into the vagina. A second erection is often impossible. In these cases there is a hyperæsthesia of the posterior urethra, often with oxaluria. In other cases ejaculation is much delayed, and in neither is there much satisfaction. Often copulation causes pain in the back, groin, or suprapubic region. In a few cases there is functional impotence; but in many there is an increased sexual desire. Following erection, after a hard movement of the bowels and at the end of the stream, there occasionally appears a glairy mucous discharge. This is usually prostatic, but may contain spermatozooids.

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* Read before the Society of Alumni of Bellevue Hospital, February 2, 1898.

On examining the urethra with the endoscope, the pendulous portion will be found perfectly healthy unless there is a purulent discharge; while the posterior urethra is usually hyperæmic and hyperæsthetic. Rectal examination will show one or both vesicles enlarged, somewhat sensitive, and boggy.

The general symptoms are not well marked. There are often anæmia, constipation, and intestinal indigestion. In cases of long standing there are usually extreme nervousness, insomnia, and sometimes melancholia.

Diagnosis.—Gonecystitis must not be mistaken for spermatorrhœa. This condition presents many of the same symptoms, but the trouble is due rather to a stricture of the urethra, together with a congestion of the posterior urethra and prostate, and irritable vesicles.

Acute gonecystitis sometimes resembles cystitis. If the urine passed is muddy, while that drawn by the catheter is clear, then cystitis may be excluded.

I have seen gonecystitis mistaken for pyelitis, for stricture, for posterior urethritis, and for granular patches. The finger in the rectum will determine at once if there is any inflammation of the vesicles.

Prognosis.—For recovery this is good, except in tuberculous cases. In acute cases the time is from two to eight weeks; for the subacute, three to six months; for the chronic, six to twelve months. In cases of long standing, say eight to ten years, the prognosis is not so good; yet many of these are amenable to treatment.

Treatment.—Acute gonecystitis should be treated by rest in bed, together with hot applications to the perinæum of flaxseed poultices, cloths wrung out in hot water, or preferably, by hop poultices. Internally, diuretics and anodynes should be given, with no local treatment to the bladder, urethra, or vesicles. Under this mode of treatment the inflammation usually subsides in the course of from three to ten days and the vesicles regain their normal condition in two or three weeks, or the inflammation may take on the subacute form.

In the subacute and chronic forms, except those of the tuberculous and syphilitic varieties, the only treatment that is of any service is the stripping or milking of the vesicles. The method is as follows: The patient is made to flex the body on the hips by bending over a chair, and the finger, well lubricated with vaseline, is passed into the rectum. The prostate is first mapped out and then the finger is passed upward and to either side, the other hand making pressure above the pubes to force the contents of the pelvis downward. The healthy vesicles may be mapped out easily. They feel like flattened cylindrical bodies, about half an inch in width, with numerous irregularities. A little to the inner side may be felt the ampulla of the vas deferens. If the vesicle is inflamed it will feel much softer than normal, and is considerably increased in size. If the vesicle is found enlarged, it is stripped slowly and gently toward the prostate, the tip of the finger only being used. The patient is then allowed to empty his bladder. If the stripping has been successful, the fluid voided will be found to contain large masses of inflammatory exudate, a flocculent precipitate, or it may have a milky appearance. In some cases the result of the stripping appears at the meatus. I have stripped out in two cases perfect casts of the vesicles and, in several, masses which, floating on the surface of the water, were fully an inch long by three quarters of an inch wide and a third of an inch thick. These under the microscope are found to be composed of fibrin and a few white blood-corpuscles and spermatozooids.

That this fluid stripped out is vesicular and not prostatic I have proved to my own satisfaction in a number of instances by first stripping the prostate, allowing the patient to pass water, then stripping the vesicles, having thrown into the bladder a non-irritating solution, and having him urinate. There will be in the first water passed some shreds and many bodies, nearly round and glistening, of about the size of No. 1 shot; while the water passed after stripping the vesicle will be like that described above. Also, stripping produces a marked diminution in the size of the tumor felt above the prostate.

There is no medicine that will have much effect in aiding the cure. Sodium bromide will often relieve the burning at the end of the penis. Phytolacca and hydrastis sometimes have a sedative action. I have used phenalgine with great benefit to relieve the seminal emissions. Usually a tonic is indicated and the bowels need regulating. A moderate amount of exercise is of benefit, but overexercise and bicycle riding should be prohibited. Excessive smoking irritates an inflamed vesicle.

Local treatment to the urethra is of no benefit and often does harm. It is true that the shreds will be eradicated in some cases, but the improvement is only temporary.

I have selected a few cases to show how varied may be the symptoms.

Case I.—F. Mc., aged twenty-six years; occupation, clerk; applied for treatment at the dispensary February 23, 1897, with the following history: He had had a discharge for five days, which began on the eighth day after connection. This ran the usual course for three weeks, when he began to have great frequency and passed some blood. He had some fever and chilly sensations, with pain in the back and suprapubic region; also pain at the end of the stream on passing water. His urine contained pus in both specimens, with some blood and a few diffuse pus clots in the second. The left vesicle was much enlarged, hot, and tender. To exclude cystitis I passed a catheter and the water drawn was perfectly clear. I ordered him to stay in bed and apply hot poultices to the perinæum. Internally, I gave him an alkaline diuretic. In three days the pain and frequency had disappeared, and the vesicle was much reduced in size. In one week he had entirely recovered except for a slight gleety discharge, which responded later to the usual treatment.

CASE II.—C. W., aged thirty years, mechanic, applied at my office for treatment May 29, 1897. He had contracted his first gonorrhœa three years previously and had had a constant discharge since, in spite of constant treatment. Two years later he had typhoid fever, at which time he occasionally passed very muddy urine containing many large pus clots. About three months after this he had to wear a leather cot on the penis to keep himself from masturbating in his sleep. When I first saw him he complained of pain over the pubes on movement of the bowels and of a sticky discharge from the penis. Copulation was not satisfactory and was followed by pain over the pubes and a feeling of melancholia. I found the left vesicle enlarged and soft, and was able to strip a large amount of fluid from it. I stripped him once a week for five months, and at the end of that time he was perfectly well. His discharge had disappeared in the first month of treatment and his other symptoms during the second. I saw him again last month and found that his vesicles had remained perfectly healthy and that he had had no return of his symptoms.

CASE III.—J. Q., aged twenty-three years; occupation, clerk; came to the office March 20, 1897. He had a gonorrhœa which I treated with argonin. I succeeded in stopping the discharge in nine days, but could not clear the urine of shreds. He occasionally noticed a morning drop. I enlarged the meatus, which was very small, and searched for stricture but found none. On April 2d he complained of pain in the groin. I found both vesicles very much enlarged and soft, and was able to strip out large masses of inflammatory exudate. I stripped him every sixth day for two months. At the end of that time the vesicles were perfectly normal to the touch and very little could be stripped from them. I continued stripping him once in ten days for two months longer and then discharged him. He has had no symptoms of any trouble since.

CASE IV.—G. M., aged thirty years; occupation, laborer; applied at the dispensary February 20, 1897, with the following history: He had contracted gonorrhœa three months previously and was apparently cured in four weeks. For four weeks previous to coming to the dispensary he had noticed that his urine was occasionally very muddy and at other times perfectly clear. He had no pain or discharge. The urine passed at the dispensary was perfectly clear, but his morning urine, which he had brought with him, contained a lot of pus and numerous large pus clots. His left vesicle was found very much enlarged and a large amount of fluid was expressed from it. He was stripped every week for four months and then disappeared, not having had any return of his symptoms in three months. He came back in December complaining of a pain over the heart. I examined the vesicles and found them perfectly normal, the pain being due to indigestion.

In conclusion I may affirm:

1. That gonecystitis occurs with about the same frequency as epididymitis; the acute form much more rarely than acute epididymitis; the chronic form more frequently than chronic epididymitis.

2. That in my opinion masturbation or sexual excesses can not cause it, unless they have first produced a stricture in or near the bulb.

3. That stripping the vesicle is the only treatment that is of any service in chronic non-tuberculous and non-syphilitic gonecystitis.

4. That the vesicle can be reached and emptied in spite of the fact that it seems impossible from measurements made on the dissecting table.

5. That we have by this method a treatment whereby we are able to cure a large number of the so-called "incurable gleets."

AN EASY AND EFFECTIVE METHOD OF TREATMENT OF TINEA TONSURANS.

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ETC.

To effect a rapid cure in ringworm of the scalp is asserted to be as difficult now as it was many years ago, notwithstanding the vast number of germicides recently brought forth. A description of a successful, easy, and rapid method of treatment of this disease might therefore prove of benefit to the profession.

About a year and a half ago the author described * a method of treatment which cured every case of ringworm of the scalp under his care in from three to six weeks. The remedies entering into this preparation were carefully selected after testing the efficacy of almost every drug advocated in this skin disease; and after having succeeded in eradicating an epidemic of tinea tonsurans consisting of three hundred and seventy-nine cases at the Hebrew Sheltering Guardian Society Orphan Asylum, the writer ventured to claim that the method used was especially advantageous in epidemics for the following reasons:

1. The cure is speedy, with little or no inflammatory reaction.

2. It can be easily and rapidly applied. This is of special value where many cases are to be dealt with.

3. The mixture, being thickly applied, adheres closely to the scalp and excludes the air, thus retarding the propagation of the parasite; making, by the way, caoutchouc caps unnecessary—a fact well worthy of consideration from a pecuniary standpoint.

4. It lessens the liability of self-infection (as well as further spread of the disease) by keeping the scales and broken-down hair closely adherent to the primarily affected spots.

These conclusions were based upon the following observations:

1. The trichophyton fungus lies deeply imbedded in the epidermis, so that in order to reach and destroy it the treatment must be vigorous and continued for a few

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* *American Medico-surgical Bulletin*, September 5, 1896.

weeks. The use of many germicides has therefore often to be abandoned, owing to the severe irritations they produce.

2. The treatment of ringworm of the scalp being, to say the least, tiresome, it often happens that the orders of the physician are either not carried out at all or are modified by the attendants, to the great disadvantage of the patient.

3. As exclusion of air tends to interfere with the rapid propagation of the parasite, and as colored salves and oils, while not alone appearing repulsive to those in the immediate proximity of the patients, soil and often indelibly stain the bedding as well, the use of caps, fitting snugly to the head, was advised. Cotton or woolen caps absorb the medication, while caoutchouc caps, on the other hand, are expensive. In dealing with many cases, as in hospital and asylum epidemics, the recommendation of the latter is apt to be met with considerable resistance by the institution's managers. It thus often happens that in the absence of the physician orders are given to have the applications wiped off at night (when he is supposed to have made his last call), and in private families even sooner, when company is expected.

4. The tedious course of the disease is due mainly to self-infection of other parts of the scalp from the primary eruption; by applying the mixture over the entire scalp this can be prevented.

Since the eradication of the epidemic mentioned above eighty-two new cases came under the writer's care, and every one of them yielded promptly to the same method of treatment. The same success was obtained by Dr. Spalding, visiting physician to the Juvenile Asylum, of New York, who, after curing over forty stubborn cases of "tinea tonsurans" within three weeks, honored the author with a note stating that he had "never before met a simpler and more efficacious remedy." He remarked also that among the cases treated, two were afflicted with favus, and that these, too, were on the road to recovery. Dr. Moreau Morris, inspector of the board of health, has also witnessed successful results from this method of treatment in various institutions of this city.

The writer, therefore, ventures to claim that by his method every case of ringworm of the scalp can and will be cured within three to six weeks, provided the directions given below are strictly adhered to.

℞ Acidi carbol., Olei petrolei,	āā	65.0
Tinct. iodini, Olei ricini,	āā	110.0
Olei rusci (German)	q. s. ad	500.0

After clipping the hair close to the scalp this mixture is applied over the entire scalp—more thickly over the affected spots—by means of a painter's brush, once a day for five successive days. On the sixth day it is wiped off with a rag dipped in plain olive oil; now the hair is clipped again and the scalp washed thoroughly but gently with green soap and a *soft* nailbrush, care being taken that all the scales and loose hair covering the scalp are removed. No epilation is, as a rule, necessary. On the seventh day the mixture is reapplied as thickly as before and the whole process is repeated regularly for three or four successive weeks—the length of time depending upon the severity of the case—when it is found that new hair begins to appear and no trichophyton fungi can be discovered in the hair epilated for microscopical examination.

These procedures are followed by a few days' application of a ten-per-cent. sulphur ointment, and then by the use of the following preparation for about two weeks:

℞ Resorcini, Acidi salicyl.,	āā	16.0
Alcoholis		120.0
Olei ricini	q. s. ad	500.0

This mixture considerably hastens the growth of the hair on the bald spots. In cases where isolation is impracticable or impossible, as often happens in private families, this resorcin mixture serves as an excellent substitute, for I observed that when it was superficially applied to the healthy heads coming in direct contact with the ringworm patients no infection took place.

Prevention of further spread of the disease in large institutions, where hundreds of inmates are packed in comparatively small rooms, often baffles the skill of those in charge of them. The clipper, while an admirable time-saving instrument, is one of the principal means by which contagion is carried. To avoid this the following rules must be carefully observed:

1. Separate clippers must be used for the healthy and diseased inmates.

2. Previous to clipping the hair the healthy inmates must be examined for ringworm of the scalp and suspicious cases isolated.

3. At least six clippers must be kept on hand, all thoroughly boiled at first, and placed in a five-per-cent. solution of carbolic acid while the clipping is going on. Two of them are to be used at a time, leaving the other four exposed to the effect of the germicide.

4. Immediately after clipping the hair it is of great service to have all the healthy inmates' heads thoroughly washed with green soap.

Infection among the affected inmates spreads, as with the healthy ones, by means of the clippers and also through the caps. Very seldom do the nurses strictly obey the order given by the physician—that one patient should not receive the cap of his comrade; and we find too often that the caps are mixed up, so that a patient with only one affected spot gets a cap filled with fungi in every portion of it. This fact alone is of sufficient import to deprecate the use of caps and makes the writer's method of treatment much more valuable.

In order to avoid soiling the bedding, the pillows are covered at night with ordinary oilcloth.

Assuming, now, that all the claims discussed in this paper can be substantiated by a careful and diligent trial, the writer ventures to recommend his method, especially to those who have tried in vain to eradicate the disease in question by means of corrosive sublimate, chrysarobin, and the like, in such strengths as to produce poisoning or suppurative inflammation of the scalp, face, and eyes, with the dictum in view that "the end sanctions the means."

5 MITCHELL PLACE.

Therapeutical Notes.

The Thermic Treatment of Gonorrhœa.—Dr. James J. Walsh, writing from Berlin (*Therapeutic Gazette,* April 15th), after discussing the German opinions on protargol and other silver remedies in gonorrhœa, says: The most promising thing in the treatment of gonorrhœa just now would seem to be Quincke's suggestion as to temperature. The gonococcus is extremely sensitive in cultures to even slight variations of temperature. Dogs with a constant temperature of 39° C. [102.2° F.] can not be inoculated with gonorrhœa, and Finger found that malarial and other patients with a temperature of 40° C. [104° F.] would not take it. Quincke puts a Leiter coil around the penis and keeps the temperature at 40° C. for twenty-four hours, and has got some very satisfactory results.

The Treatment of Lupus Erythematodes.—Block, of Hanover, who advocates mild measures (*Wiener klinische Wochenschrift*, April 14th), recommends for recent cases the application of a plaster containing carbolic acid and mercury at night, and inunctions with the following ointment during the day:

℞ Oil of cade	1 part;
Zinc oxide, Green soap, } each	2 parts;
Vaseline, enough to make	10 "

M.

The Treatment of Coryza.—Garel, cited in the *Indépendance médicale* for April 27th, gives the following formula for a snuff:

℞ Menthol	1 part;
Ammonium chloride, or salol	4 parts;
Boric acid	16 "

M.

Inasmuch as, by reason of the nasal obstruction, it is difficult for the patient to snuff up the powder, it is well to insufflate it through a rubber tube.

Unna, of Hamburg, recommends the sparing use of the following spray:

℞ Ichthyol	1 part;
Ether, Alcohol, } each	100 parts.

M.

An Antiseptic Varnish.—The *Journal de médecine de Paris* for April 24th gives the following as Nicaise's formula:

℞ Powdered lac	120 parts;
Balsam of Tolu	10 "
Thymol	3 "
Alcohol	100 "
Ether	200 "

M.

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THE SURGERY OF MODERN WARFARE.

THE war that has just begun between the United States and Spain may be expected, we presume, to furnish some much needed data concerning any modifications of surgical procedures that may be rendered necessary by the changes in arms that have taken place since the occurrence of any great war, and by the use of vessels of war such as have never before been engaged in squadron conflicts. This expectation may not be fully realized; indeed, we hope it will not, for we are still unwilling to believe that the contest we have now entered upon will prove to be of any great duration.

Not a little has already been published concerning the effects of the small-calibre bullet that has recently come into use. Most of what has been said of them, however, has been little better than speculative. By far the most important contribution to our knowledge of what the small-calibre bullet is capable of doing, in our opinion, has been made by Dr. Charles E. Woodruff, of the United States army, in his article on The Causes of the Explosive Effect of Modern Small-calibre Bullets, published in our issue for April 30th. So graphic is Dr. Woodruff's description of the unsatisfactory state of opinion as to the behavior of the bullet, up to the time of his experiments, that we here reproduce the substance of it. Writers first affirmed, he says, that the bullet went through the tissues with great velocity and made only a small hole. Then there came reports of frightful destruction of tissue, as if the bullet had exploded. Some reconciled these conflicting accounts by asserting that it was at short range only that the explosive effects were produced, while others stated that they occurred at both short and long range, but not in the intermediate ranges. But all this was upset by the fact that the bullet would sometimes pass through a man with so little injury to his tissues that he would keep on fighting, not even knowing he was hurt, while right at his side a comrade would be struck down and instantly killed.

The satisfactory explanation of this astonishing diversity of effect which Dr. Woodruff founds on his experiments and on his reasoning from observations made by some other competent observers can be grasped only by reading his whole article carefully. An intensely interesting point in it is the demonstration that the ruin sometimes wrought by the missile is often due to the explosion, so to speak, of the liquid contents of a hollow organ through which it passes. It is not the bullet that explodes, as some have supposed, but something through which it travels at an instant when that something—particularly liquid contained in a cavity—is in a state to catch up the vibrations of the bullet. One practical outcome of this explanation is to emphasize the old injunction that a soldier should always go into battle with his bladder empty, but for a different reason from the one given by the surgeons of bygone times.

Turning to naval warfare, we have thus far, in addition to the small experience acquired in the war between Japan and China, nothing but the recent engagement between the American and Spanish fleets in Manila Bay. So far as that goes, it is of little if any use in putting naval surgery in a new light. While the enemy suffered severely, our own losses amounted to nothing. We do not know how many of the wounded Spaniards went down with their ships, and we know as yet nothing of the nature of the injuries sustained by those of the Spanish force that took refuge in the city of Manila. The general expectation is that a squadron encounter is soon to take place in open waters. If that happens, something more may be learned from the surgical point of view.

THE ETHICS OF ADOLESCENCE.

The question of satisfying the natural curiosity of children as to their origin, the nature of sex, and the character of the new functional activity whose development they instinctively, whether consciously or unconsciously, realize at puberty, is one which must always be in evidence, and one to which many solutions have been offered. But it has been the custom of by far the great majority in most times and countries to altogether ignore it, leaving the solution of these questions in the child's or adolescent's mind "to Nature," which practically means to others less scrupulous than the parents, at whose hands as a rule the young boy or girl receives the first lessons in pruriency. It must not be forgotten that there is no such thing as a prurient subject. The term "prurient" can not legitimately be applied to any subject, but only to the method of handling it—and it is just this prurient method that the youth of both sexes will inevitably acquire so long as they are denied the natural information to which they have a right when their minds persistently turn toward it.

There are parents who, if the subject of the proper enlightenment of children is broached to them, reply: "Oh, let the child retain its innocence as long as possible." They confound innocence with ignorance, with the natural consequence that the child mistakes pruriency for philosophy. With people so blind as that it is almost useless to argue. But there is another and far larger class who avoid the subject and evade every allusion to it on the part of their children, because of the difficulties and embarrassments of dealing with it. For them reprehension is not in place, but rather enlightenment, and for this reason Dr. William M. Salter deserves the thanks of all thoughtful people for his paper whose title forms the heading of this article, and which was read before the Physicians' Club, of Chicago, on April 4th, and published in a recent number of the *Journal of the American Medical Association.* It would be a public benefit if such a paper could be distributed broadcast to the parents of the land, and not only to the parents, but to the teachers also, especially to those in whose hands rests the teaching of elementary physiology in schools, and whose opportunities, therefore, for imparting the necessary information in a fitting manner are unexcelled. We remember reading once of a mother who, bringing her two children into her family physician's office, begged his permission to see an illustrated work on obstetrics. Turning it over till she came to plates of the *fœtus in utero,* she told her children that she had often promised to answer their questions as to where they lived before they were born, and she now showed them the house inside their mother where God had placed them for shelter, as the chickens lived in the eggs until such time as they were able to come into the world and live of themselves. The story was told so plainly, yet so fascinatingly, and with so much reverent purity, that the physician described himself as being almost moved to tears by this good woman's loving wisdom.

But all women are not possessed of such wisdom, and to such the advice of Dr. Salter will make the way clear. He says: "In simple language I would point out that there is nothing peculiar in the way human beings are born. Every living thing has seed somewhere on it or in it, and each successive living thing in turn comes from a seed. A plant was once a little seed, and so with the biggest kind of tree, and so was a bird, or a horse, or a man." Every seed, he points out, is at first nourished and protected in the body of the parent until it is far enough advanced to have a life of its own, and its leaving the body of the parent is what is called (in the case of animals and men) birth. Just as every grain of corn was first in the body of a parent plant, so every little boy and girl was first carried and fed and kept out of harm's way in its mother's body, until it was fit to come to the light of day and to learn more and more how to care for itself. Further, he would explain that seeds do not grow of themselves, that two germs unite to become one before either can come to anything, whether, as with some plants, the two are in one body or, as with other plants and with animals, they are in different bodies. So of the same sort of being there are what we call male and female forms, each having its own kind of seed, which seeds must come together and become one before they can grow into a tree, a fish, a bird, or a human being.

Remove the air of mystery, and pruriency will vanish—and this should be done, as the author points out, before the critical age when the child is passing into manhood or womanhood, and new thoughts and feelings are stirred, new temptations are encountered, and the promptings of physical passion begin to assert themselves. Of those who would taboo this subject as unclean, the author asks: "Why is this an improper subject? Why is it not as sweet and clean as any other? Why is not birth a holy thing, and motherhood or fatherhood an equally holy thing?" And he adds this pregnant sentence: "Reverence for a thing and a sense of its uncleanness are, it seems to me, incompatible feelings." Rest assured, parents, that if you do not yourselves, or through their teachers, give this information to your children, as soon as the drift of their questionings shows that they are naturally prompted to seek it, in a way that is "scientific, true, and clean," they will find innumerable others, "in back alleys, on the way to school, or in the servants' room," who will be only too ready to afford it to them in a fashion that is "morbid, false, and dirty."

"In a word," says Dr. Salter, "I would have children understand life, then the law of life. The law of individual conduct follows as a matter of course. I would say to boys and girls, You have functions fitted to certain uses; hence they are for those uses; to make other use of them is wrong. Both self-abuse and sexual connection (save between husbands and wives) come thus to be abnormal things."

THE BICYCLE AS A THERAPEUTICAL AGENT.

At a recent meeting of the Berlin Society for Internal Medicine, the proceedings of which are reported in the *Klinisch-therapeutische Wochenschrift* for April 17th, Dr. Siegfried combated Mendelsohn's objections to the use of the bicycle under certain conditions. In particular, he contended that bicycle exercise did not give rise to sexual excitement unless the saddle employed was faulty. He had found bicycling of decided benefit in a number of cases, and he spoke of the systematic use of the bicycle under the name of cyclotherapy. One case of its usefulness was that of a merchant, thirty years old, who had suffered severely with articular rheumatism for several years and had ankylosis of the lower limbs. The man was so despondent as to contemplate suicide. Surprising improvement had followed the systematic use of the bicycle. The patient's despondency had been altogether overcome, and he now attended to his business with alacrity. There was still ankylosis of the hip, and the man limped, but he used no support in walking and his knee joint was quite sound. Gradual improvement had occurred in the case of an old lady who was suffering with sciatica, also in that of a man, thirty-six years old, with septicæmic inflammation of the knee. The author affirmed that the bicycle treatment was slow but sure. Another case showing its efficiency was that of a lady, fifty-four years old, who for ten years had suffered with gout and articular rheumatism, together with mitral insufficiency. In this case also the effect upon the patient's mental condition had been striking. Finally, the author spoke of the case of a lady, twenty-two years old, who had isolated atrophy of the quadriceps extensor cruris and the psoas and iliacus muscles, to whom the use of the bicycle had been of benefit.

In cases of fatty heart, too, the author had observed benefit from bicycling. The healthy heart, he remarked, was accelerated in its action by the use of the bicycle, but the opposite effect was produced upon the diseased heart, provided the exercise was resorted to under proper regulation; its effect in cases of heart disease was quite the same as that of resisted gymnastics. One result of the therapeutic employment of the bicycle was to reduce the rapidity of the breathing notably, while the energy of expiration was decidedly heightened. The number of respirations might fall to five to the minute, each inspiration occupying five seconds, the expiration three, and the pause four. A medical student named Zuntz had observed this experimentally. The author declared that this effect was permanent in persistent bicyclists, and he said that in his own case he had ascertained that the respirations were not more than eight in a minute even after a hearty meal and the ingestion of alcohol. In conclusion, Siegfried spoke of the improvement brought about by the use of the bicycle in tabetic persons affected with disturbances of coordination; in such cases, he said, it might be looked upon as a compensatory form of therapeutic exercise.

MINOR PARAGRAPHS.

BELLEVUE HOSPITAL AND THE NEW MEDICAL SCHOOL.

A SITUATION that was probably not expected by the authorities of the New York University is that of the present relations of one of the divisions—the former university division—of the medical staff of Bellevue Hospital. The staff, as is well known, has of late consisted of four divisions, representing respectively the profession at large, the medical school of Columbia University, the medical school of the New York University, and the Bellevue Hospital Medical College, and, as regards the collegiate divisions, there has been a rule in force to the effect that when a man gave up his school connection he ceased to be a member of the staff. It seems, however, that this rule has been rescinded, and the result of this is, as we understand it, that the New York University, instead of being free to nominate new members of the hospital staff to succeed the gentlemen who lately resigned from its medical faculty, is without representation on the hospital staff and probably unable to obtain such representation, while the new Cornell school gets a footing in the hospital at once.

THE ACTION OF SUPRARENAL-CAPSULE EXTRACT ON THE EYE.

IN our issue for October 16, 1897, there appeared an abstract from a French journal describing certain results from the use of extract of the suprarenal capsule in ophthalmology. The observations of the French authors, M. Maurange and M. Barraud, were confirmatory of those of Dr. W. H. Bates, whose article on the subject was published in this journal for May 16, 1896. It is generally recognized, we think, that Dr. Bates was the first to employ the drug in ophthalmological practice; moreover, our remembrance is to the effect that the French writers alluded to mentioned the fact in the article in question. Unfortunately, it was overlooked in our abstract.

THE PROFESSION OR THE STATE, WHICH?

THE *Atlantic Medical Weekly* for May 7th puts the following query for a correspondent, who seeks to know whether greater allegiance is due to the profession or the State: "When called to a patient seriously ill with pelvic peritonitis and he is handed under a seal of secrecy a written statement that the sickness is the result of a criminal abortion, and that in event of the death of the patient he is requested to open a sealed envelope and learn the name of the physician who induced the labor, what is his duty, should he shield his professional brother, or does he owe a duty to the State which should compel him to hand the letter and inclosed envelope to the authorities without waiting for the death of the patient?" The practitioner's duty on one point is clear enough at any rate, and that is not to wait for the death of the patient, but either to open the envelope forthwith or to put it at once into the fire, according to his sense of duty. The dastardly treachery of a person who, being *particeps criminis* in an illegal operation undertaken with her own consent and for her own benefit, would visit upon her accomplice the penalty of failure by such mean, cowardly, contemptible revenge as is implied in deliberately planning disclosure only in the event of death, deserves to be pilloried to the odium of all mankind before she has a chance to escape from it.

MODERATE DRINKERS.

IT is the fashion with many prohibition cranks to abuse the "moderate drinker," the logic of their reasoning being that there would be no drunkards but for moderate drinkers. At first blush that argument appears sound, but when we come to investigate it a little more closely, we find that, like many another hasty generalization, it conveys a fallacy consequent upon inaccurate observation. The *British Medical Journal* for April 30th, commenting upon "a well-meaning appeal to the medical profession, issued by the Manchester and Salford Women's Christian Temperance Association," says: "The fact is that people take alcohol either because they like its taste, or because they like the effects which it produces. The former class seldom become drunkards, the latter are inebriates from the beginning." This point of diagnosis gives us a means of rescuing from the ban at least one section of moderate drinkers—viz., those who drink chiefly, if not entirely, with their meals. There are many people to whom a full meal is absolutely devoid of any enjoyable qualities in the absence of some light form of alcohol, in the shape of beer, well diluted whisky, or light wines, such as are commonly taken in France and Germany. A light wine of that character, whose alcoholic strength is insufficient to produce any vasomotor paresis of the mildest kind, even though a whole bottle should be drank with a meal, is a great desideratum. There are many to whom tea or coffee is positively nauseous when taken with full meals of meat or highly nitrogenous foods, who dislike milk as equally insipid and unpalatable, and to whom water is no better than nothing at all. They are the legitimate moderate drinkers, who drink for flavor and not for stimulus, and it is on such as they that prohibition fiends lay a grievous burden of undue interference with personal liberty.

FIGHTING DOCTORS.

CAPTAIN LEONARD WOOD, an assistant surgeon in the army (*Journal of the American Medical Association*, May 7th), has been granted permission to raise a regiment of volunteer mounted riflemen of which it is understood that he will be appointed colonel with the late assistant secretary of the navy as lieutenant colonel. Such a course is not unknown in other armies. A veterinary officer with the relative rank of captain in the British army obtained permission to change his branch of the service during the Soudan campaign, and was gazetted to the "combatant" side, retaining his rank of captain. In the British militia and volunteer forces quite a large number of doctors prefer to serve as "combatant" officers. There is no earthly reason why a doctor should not make just as good a combatant officer as a lawyer or any other person, provided both start their career on equal terms. Much amusement at the expense of the "doctors" was occasioned some years back at Aldershot when the English war office, to unify the control of the medical staff corps, detailed a surgeon to the school of musketry in order that he might qualify as an instructor of that science for the men of the medical corps, and thus relieve a "combatant" officer. When the surgeon returned at the top of the class list the amusement somehow became less pronounced. But why should it ever have existed?

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 7, 1898:

DISEASES.	Week ending Apr. 30.		Week ending May 7.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	15	9	15	6
Scarlet fever	223	20	229	19
Cerebro-spinal meningitis	0	13	0	9
Measles	539	21	399	20
Diphtheria	213	36	190	35
Croup	10	6	18	3
Tuberculosis	144	151	148	103
Small-pox	2	0	0	0
Chicken-pox	17	0	28	0

Pilocarpine in Acute Infectious Diseases.—In the *Therapeutic Gazette* for April 15th Dr. Sanders, Dr. Zahorsky, and Dr. C. Fisch, of St. Louis, publish a communication of considerable weight on this subject. The article is at the same time an exhaustive epitome of the work of others, with a valuable addition of original observations. The authors call attention to the fact that urinary solids are excreted in the hyperidrosis induced by the drug, and possibly leucomaines, ptomaines, and toxines also. It has also a diuretic action, and, by the induction of vomiting and diarrhœa, an excretory influence on the gastro-intestinal tract. It produces leucocytosis, and suggests therefore a probable increase of phagocytosis and of the production of alexines. It reduces temperature, probably chiefly by the rapid elimination of the pyrogenic toxines. The primary effects are an acceleration of the pulse and dilatation of the peripheral capillaries, resulting in lowered arterial tension; the secondary, its diaphoretic and sialogogue influence, and these secondary symptoms are to be sought in all cases. The authors point out that the symptomatology of most infectious diseases is the physiological action of specific toxines generated by rapidly growing bacteria, frequently multiple in character, to which must be often added putrefactive toxæmia (or ptomaine poisoning) and self-intoxication (retention or leucomaine toxæmia). The principal indication will necessarily be to prevent the accumulation of toxines to an extent so great as to paralyze cellular activity instead of stimulating antitoxine production. For this purpose pilocarpine is an admirable agent. It offsets the marked renal insufficiency which is a common early symptom of most infectious diseases; when the fauces are the seat of bacterial growth, it depletes the mucous membrane, loosens the exudate, and washes away bacteria in the salivary flood. The toxilytic function of the liver is also stimulated by pilocarpine, and probably the lymphatic glands are also aided by it in their defensive work, for it stimulates more or less every gland cell in the body. As to its administration, the authors insist that the alkaloid itself, and not jaborandi, should always be used. Pilocarpine hydrochloride or nitrate is recommended in doses ranging from one eighth to one fourth of a grain, using the smaller dose, and pushing it if necessary till the characteristic effects are induced. Doses insufficient to produce secondary symptoms are worse than useless. The physiological action begins within fifteen minutes and lasts from one to three hours. Children need proportionately larger doses than adults, and in them the proportion, according to Cowling's rule, must frequently be doubled. The administration should be continued for one or two days only. "As a result of excessive depletion—for pilocarpine stimulates more or less every secreting cell in the body—we may have symptoms of collapse; but its action can be instantaneously arrested by a hypodermic injection of atropine, and the system rehabilitated by strychnine."

The contraindications are all conditions threatening suffocation, heart failure, pulmonary œdema, or coma, and the supervention of paralytic symptoms in diphtheria. The authors next discuss its application to various diseases. In diphtheria they regard it as a valuable adjunct to antitoxine, by its power of washing off recent false membrane and preventing the overaccumulation of toxalbumin while antitoxine immunization is proceeding. They point out that in severe cases of diphtheria there may be four intoxications to combat, viz.: 1. With the Klebs-Löffler bacillus. 2. With pyogenic organisms. 3. Putrefaction of false membranes (ptomaine toxæmia). 4. Self-intoxication (leucomaine toxæmia). Against only the first of these is antitoxine effective. Pilocarpine they regard as specific against all coccus invasion of the throat, whether in diphtheria, scarlet fever, or influenza. The picture of apathetic, paralyzing, stupefying ptomaine poisoning of the third kind changes in a few hours under pilocarpine from the elimination of the alkaloids and stimulation of liver toxilysis. The high temperature, delirium, perhaps convulsions, and colorless low-specific-gravity urine of leucomaine poisoning by retention of urinary products are overcome with equal rapidity.

The assistance rendered by pilocarpine to the specific action of antitoxine is made clear by some laboratory experiments. When an animal receives a lethal dose of diphtheria toxine counteracted by a simultaneous, adequate, protective dose of antitoxine, it is an established fact that the addition of a minute surplus of toxine, incapable of itself of causing serious symptoms, speedily determines death. Using this well-known fact, the authors injected two guinea-pigs with 0.12 of normal diphtheria toxine (*i. e.*, with 0.02 in excess of the lethal dose) mixed with one cubic centimetre of a 1-in-1,000 dilution of antitoxic serum of 100 units strength. One of these was treated with one thirtieth of a grain of pilocarpine hydrochloride. Under identical conditions the pilocarpine animal remained healthy without even local infiltration, while the untreated animal died in thirty-six hours with typical diphtheria lesions from the surplus of 0.02 cubic centimetre of toxine. The same comparative results obtained in two other animals, in which the pilocarpine was injected into the check animal twelve hours after inoculation.

Reference is further made to the author's experiments in treating with pilocarpine goats and cows which are being immunized against diphtheria for the production of antitoxic milk. The mortality, which is ordinarily large among these animals, has by this means been reduced to *nil*. The authors proceed to extol the effects of pilocarpine from their own experience in all faucial exudates, in scarlet fever, the continuance of fever and the sequelæ of which they regard as always due to the associated affections of pyogenic organisms, and in influenza. The use of pilocarpine in pneumonia is not so satisfactory nor, though undoubtedly beneficial in inducing local immunity, in erysipelas. In measles they regard it as the best remedy to prevent complications and sequelæ. An extended bibliography is appended.

The Clinical Significance of the Different Forms of the Klebs-Loeffler Bacillus.—Dr. W. J. Class, medical inspector of the Chicago health department (antitoxine staff), thus summarizes (*Journal of the American Medical Association*, April 30th) the results of his researches on this subject. To sum up: We have seven cases with severe constitutional symptoms, with two deaths; in all of these the short Klebs-Loeffler baccillus and streptococci were found; thirteen cases in which the constitutional symptoms were not so marked, but the membrane was, as a rule, thicker and more extensive; in six of these typical Klebs-Loeffler bacilli were found alone, in five they were associated with streptococci, and in one each are found typical Klebs-Loeffler bacilli with staphylococci and long Klebs-Loeffler bacilli, respectively. In the remaining seven cases the constitutional symptoms were mild or entirely absent; of these, four showed the presence of the long Klebs-Loeffler bacillus alone, and, in one each, streptococci and staphylococci, streptococci and micrococci tetrageni, and pseudo-Klebs-Loeffler bacilli were found.

As the result of these examinations I have arrived at the following conclusions:

1. That the short Klebs-Loeffler bacillus apparently produces a toxine of greater virulency than the longer forms, although the local manifestations may not be so extensive.

2. That the long Klebs-Loeffler bacillus and the streptococci when found alone give rise to a mild type of the disease.

3. That the streptococcus is found associated with the Klebs-Loeffler bacillus in most of the severe cases. Its special significance is not so clear, but it is possible that by causing a more intense inflammatory reaction it opens avenues by which the toxines of the Klebs-Loeffler bacillus may find more ready entrance into the circulation, plus its own toxine.

4. That the apparent beneficial action of the antitoxine of the Klebs-Loeffler bacillus in cases where this bacillus is not present may be due to the fact that though the local action of the different microbes varies to a considerable extent, the action of their toxines, as is shown by the similarity of the constitutional symptoms produced by them, presents many kindred features. The thought, therefore, arises that the antitoxine of one infection may have an inhibitory effect on the toxine of another, as is shown by the fact that whooping-cough and some other infectious diseases have been shown to occur less frequently in vaccinated persons, and some cases have apparently been cured by vaccination.

By the term typical Klebs-Loeffler bacillus is meant the medium-sized bacillus as described by Martin.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending May 7, 1898:

Small-pox—United States.

Mobile, Ala	April 22–30	10 cases.	
Little Rock, Ark.	Jan. 1–April 28	59 "	
Newport, Ark	April 27	1 case.	
Memphis, Tenn	April 22	1 "	

Small-pox—Foreign.

Prague, Bohemia	April 9–16	6 cases.	
Hong Kong, China	March 12–26	14 "	7 deaths.
Bombay, India	March 29–April 5		5 "
Calcutta, India	March 19–26		3 "
Madras, India	March 26–April 1		5 "
Christiania, Norway	April 9–16	3 "	
Moscow, Russia	April 2–9	10 "	1 death.
Odessa, Russia	April 9–16	6 "	
Warsaw, Russia	April 2–9		8 deaths.

Cholera—Foreign.

Bombay, India	March 29–April 5		1 death.
Calcutta, India	March 19–26		35 deaths.
Madras, India	March 26–April 1	1 case.	
Kanagawa Ken, Japan	March 24–April 10	2 cases,	1 death.
Osaka and Hiogo, Japan	March 26–April 2	1 case.	
Tòkio, Japan	March 24–April 10	28 cases.	

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	March 12–25	169 cases,	130 deaths.

Plague.

Bombay, India	March 29–April 5		678 deaths.
Formosa, Japan	March 24–April 10	146 cases,	47 "

Various Diseases among Men working in Sewers.—Dr. Edgeworth, assistant physician to the Bristol Royal Infirmary, England, in a paper read before the Bristol Medico-chirurgical Society (*Bristol Medico-chirurgical Journal*, March, 1898), relates that, of four bricklayers and eight miners engaged in excavating and laying a fresh sewer in the sewage-soaked ground below and to one side of the old drain, not one of the four bricklayers was affected, while every one of the eight miners suffered in a greater or lesser degree. Two had no definite symptoms and did not come under observation, though they failed in appetite and looks. Of the six others, one had gastric symptoms, one gastro-intestinal catarrh, two gastro-intestinal catarrh followed by jaundice, one an anomalous form of typhoid fever, and one pneumonia followed by jaundice. The cases of gastro-intestinal catarrh followed by jaundice were ushered in by vomiting, diarrhœa, general pains, and fever. The presence of fever, coupled in one case with the absence of evidences of obstruction, for the motions were bile-stained, pointed to the supposition that fever and jaundice were collateral results of the same cause—viz., toxæmia. This supposition was strengthened by the presence of albuminuria. From these facts Dr. Edgeworth suggests that jaundice following gastro-intestinal catarrh, and also simple jaundice without obvious cause, as well as that following pneumonia, may often be the result of toxæmia. The case of typhoid fever, though anomalous in its course, recovery setting in with the appearance of the rash and progressing uninterruptedly after it, gave two months and a half later the characteristic clumping in two hours and a half when the specimen was diluted fifteen times.

The Southern Illinois Medical Association.—At the twenty-fourth annual meeting, which was to be held in Carmi on May 12th and 13th, under the presidency of Dr. H. C. Mitchell, of Carbondale, the following papers were to be presented for discussion:

Optical Functions of the Lens, by Dr. J. C. Sullivan, of Cairo; Monstrosities, by Dr. J. F. White, of Richview; A Clinical Report of a Case of Intestinal Stricture, by Dr. W. E. Lingle, of Cobden; A Report of a Case of Dislocation of the Knee Joint complicated with Fracture of the Femur above the Condyles, by Dr. H. V. Ferrell, of Carterville; An Ounce of Prevention, by Dr. J. O. De Courcy, of St. Libory; Cocaine Anæsthesia in Minor Surgery, by Dr. C. F. Wilhelmj, of East St. Louis; Autotoxæmia, by Dr. H. Hansen, of East St. Louis; Our Enemies in and out of the Medical Profession, by Dr. J. W. Armstrong, of Centralia; A Report of a Case of Laparotomy for Gunshot Wound of the Stomach, by Dr. A. H. Meisenbach, of St. Louis; Perineal Lacerations, by Dr. E. C. Dudley, of Chicago; Puerperal Septicæmia, by Dr. S. W. Wiatt, of East St. Louis; Penetrating Wounds of the Abdomen, with a Report of a Case, by Dr. J. L. Wiggins, of East St. Louis; A Report of Surgical Cases, by Dr. F. P. Gillis, of Du Quoin; and, Obstruction of the Lower Bowel, by Dr. James McIlwain, of Okawville. There was to be a presentation of ophthalmic specimens by Dr. James Moores Ball, also an exhibition of new instruments for the cure of senile hypertrophy of the prostate, by Dr. Bransford Lewis, of St. Louis.

Susceptibility to Vegetable Emanations. — Dr. Deschamps (*British Medical Journal; Public Health Journal*, April) records the case of a victualer, formerly a *chef*, now owning a restaurant of his own, who, whenever he dressed asparagus, was seized with violent sneezing, coryza, running of the eyes, and dyspnœa with cough and expectoration. The fits of "asthma" have increased in violence as time goes by whenever he is subject to the emanations. The subject can peel onions, carrots, turnips, and other roots with comfort, but asparagus causes, as also salsify in a milder form, the attacks as above stated. He can, however, eat asparagus freely without any troublesome symptoms.

The Society of Medical Jurisprudence.—At the one hundred and thirty-fifth regular meeting, on Monday evening, the 9th inst., the Hon. John De Witt Warner, of New York, was to present a paper on The Development of Mental Competency from a Presumption of Law into a Question of Fact.

The Germ Theory before the Christian Era.—Dr. Charles W. Dulles (*University Medical Magazine*, May) quotes, at the instigation of Professor Alfred Gudeman, the following passage from Varro, *De Re Rustica*, book i, chapter xii, as a pre-Christian conception of the germ theory: *Advertendum etiam, si qua erunt loca palustria et propter easdem causas et quod arescunt et quod in iis crescunt animalia quædam minuta quæ non possunt oculi consequi et per aera intus in corpus, per os ac nares, per-*

veniunt atque efficiunt difficiles morbos. (It must also be borne in mind if any places are marshy, not only for the same reasons, and because they become dry, but because also in them certain minute animals not traceable by sight grow in them, and, finding their way through the air into the body by way of the mouth and nose, bring about grave diseases.)

Celerity in Operating from the Anæsthetist's Point of View.—Dr. A. C. Wedge (*Railway Surgeon*, May 3d) says that much of the surgeon's deliberation and coolness should be exercised before he begins his operation. There is not much hurry about beginning, but when he does begin he should go right along and finish as soon as possible. Celerity is a necessary qualification for the surgeon. Leaving out of consideration the question of shock and considering only the effect of the anæsthetic, it is important that the operation should be finished as soon as possible, so that the use of the anæsthetic may be discontinued, for during its administration the blood is being impoverished and poisoned, and after a certain time its continued use becomes dangerous.

"Honors are Divided."—According to the *Canadian Pharmaceutical Journal and Gazette* for May, "the American University of Tennessee, recognizing the scholarly attainments of Professor J. M. Munyon, has conferred upon him the distinguished and very honorable degree and title of doctor of laws." "Professor" Munyon, we believe, is the much-advertised purveyor of empirical remedies; what is the "American University of Tennessee"?

The Detection of Renal Calculus by X Rays.—Dr. Frederick Taylor and Dr. A. D. Fripp (*British Medical Journal*, April 30th) recently communicated to the Clinical Society of London a case in which a Röntgen picture displayed the position of a renal calculus that had previously escaped detection by the lumbar exploratory operation. The stone was situated in an abnormally high position, and removal of part of the twelfth rib was necessary to effect its removal. It weighed half an ounce and was surrounded by a cyst consisting partly of kidney pelvis and partly of atrophied kidney substance.

A Side Light on General Practice in England.—A correspondent in the *British Medical Journal* for April 30th comments thus on a case reported by another physician: Dr. Purdon's letter in the *British Medical Journal* of April 23d is interesting from a point of view which may not be thought of by the consultant. His patient informed him that one doctor had said the disease was lichen, while another said it was urticaria. She wanted a correct diagnosis. That is what many patients want from the general practitioner, to whom they expect to pay half a crown or less. Then they go to a chemist and ask for medicine for that disease, and remain under the chemist's treatment for months.

Placental Organotherapy.—At the French Congress of Internal Medicine, M. Iscovesco, of Paris (*Presse médicale*, April 27th), reported the results of his observations of upward of a hundred patients treated for various uterine troubles by means of tablets each containing three and three quarter grains of fresh ewe's placenta. He was led to these investigations by observing that bitches were rarely infected with puerperal sepsis, which fact he associated with their habit of devouring the placenta. The cases under observation consisted of: 1. Chronic metritis with organic hypertrophy and concomitant catarrh, but without lesions of the annexa. 2. Chronic metritis in which the annexa were affected. 3. Abnormal uterine involution following childbirth. In some sixty cases coming under the first category, the administration of from four to six tablets daily had always afforded a rapid and marked amelioration of all the reflex phenomena having their origin in the genital organs.

The American Gastro-enterological Association.—At the annual meeting, held in Washington on May 3d, the following papers were read: A Case of Atrophy of the Stomach, by Dr. Julius Friedenwald, of Baltimore; A Case of Acute Pancreatitis—Carcinoma of the Cardia, by Dr. Morris Manges, of New York; Nervous Dyspepsia, by Dr. Frank H. Murdoch, of Pittsburgh; The Effect of Auto-intoxication on the Liver and Kidneys, by Dr. John C. Hemmeter, of Baltimore; and Precision of Terms in Diseases of the Stomach, by Dr. Charles D. Aaron, of Detroit. The following officers were elected: President, Dr. D. D. Stewart, of Philadelphia; vice-presidents, Dr. Max Einhorn, of New York, and Dr. John C. Hemmeter, of Baltimore; secretary and treasurer, Dr. Charles D. Aaron, of Detroit.

The Michigan State Medical Society.—At the recent annual meeting Dr. Ernest L. Shurly, of Detroit, was elected president; Dr. Alvord, of Battle Creek, vice president; and Dr. C. H. Johnston, of Grand Rapids, secretary. The next meeting will be held in Kalamazoo.

Rapid Röntgen Pictures.—M. Pinard (*Indépendance médicale*, April 27th) showed to the French Academy of Medicine on April 26th three direct Röntgen-ray pictures taken respectively in three, nine, and forty seconds. They are said to have been remarkable for their clearness.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Medicine, on Tuesday evening, the 10th inst., the following subjects were to be presented for discussion: Municipal Hygiene, by Dr. H. R. Hopkins and Dr. William G. Bissell; and A Report of the Sanitary Condition of the Schools of Buffalo, by Dr. Dewitt H. Sherman.

The Late Dr. Isaac N. Quimby, of Jersey City.—At a special meeting of the staff of the Jersey City Hospital, held on Saturday, May 7th, the following resolutions were unanimously adopted:

Whereas, Dr. Isaac N. Quimby, for many years a member of the Jersey City Hospital staff, has been removed by death, therefore be it

Resolved, That we, members of the staff, fully realize how great is our loss in being deprived of the kindly counsel and companionship of our late associate.

Resolved, That we feel that by his death, not only among ourselves but in the community at large, a vacancy has been created which can not easily be filled.

Resolved, That we tender our most sincere sympathy to his family in their sad bereavement.

Resolved, That a copy of these resolutions be published in the daily papers of the city and in the prominent medical journals of the country.

Changes of Address.—Dr. M. R. Bren, to No. 1949 Seventh Avenue, New York; Dr. W. F. Donovan, to No. 356 West One hundred and forty-fifth Street, New York; Dr. James W. Dunphy, to No. 58 Convent Avenue, New York; Dr. M. D. Lederman, to No. 38 East Sixtieth Street, New York; Dr. M. B. Parounagian, to No. 64 Lexington Avenue, New York; Dr. J. C. Ritter, to No. 162 Waverly Place, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 1 to May 7, 1898:*

Borden, William C., Captain and Assistant Surgeon, is relieved from duty with the Third Infantry, in camp near Mobile, Alabama, and will report in person to Hall, William R., Major and Surgeon, for duty at the General Hospital, Key West, Florida.

Brechemin, Louis, Major and Surgeon, is relieved from duty at Fort Sherman, Idaho, and ordered to Vancouver Barracks, Washington, relieving Reynolds, Frederick P., Captain and Assistant Surgeon. Captain Reynolds, on being thus relieved, will repair to Washington, D. C., without delay, and report in person to the surgeon general of the army for assignment to duty.

Calhoun, W. W., Acting Assistant Surgeon, United States army, will proceed from Washington, D. C., to Tampa, Florida, and report in person to the commanding general of the United States troops for duty at that place.

Carter, Edward C., Captain and Assistant Surgeon, having reported in person to the surgeon general of the army, is assigned to duty as assistant to the attending surgeon, Washington, D. C.

Danforth, H. W., Acting Assistant Surgeon, United States army, will proceed from Washington, D. C., to Tampa, Florida, and report in person to the commanding general of the troops at that place for duty.

Davis, William B., Major and Surgeon, is relieved from duty with the Nineteenth Infantry at Mobile, Alabama, and ordered to Fort Myer, Virginia, for temporary duty.

Edson, Carroll E., Acting Assistant Surgeon, United States army, will proceed to Fort Logan, Colorado, and report to the commanding officer for duty.

Gibson, Edward T., Acting Assistant Surgeon, United States army, will proceed without delay to Fort Yates, North Dakota, and report to the commanding officer of that post for duty.

Girard, Alfred C., Major and Surgeon, having reported to the surgeon general of the army, will proceed to West Point, N. Y., and report in person to the superintendent of the United States Military Academy for temporary duty at that post.

Greenleaf, Charles R., Colonel and Assistant Surgeon General, having reported in person to the surgeon general of the army, the Secretary of War directs that he report in person to the major general commanding the army for duty on his staff as chief surgeon of the troops in the field.

Guiteras, John, Acting Assistant Surgeon, United States army, will proceed from Washington, D. C., to Tampa, Florida, and report in person for duty to the commanding general of the United States troops at that place.

Lieber, Francis, Acting Assistant Surgeon, United States army, will proceed from Washington, D. C., to Fort Clinch, Fernandina, Florida, and report in person to the commanding officer of that post for duty.

Richards, William E., First Lieutenant and Assistant Surgeon, is relieved from duty at Fort Apache, Arizona, to take effect upon the arrival at that post of **Everts, Edward**, Captain and Assistant Surgeon, and will report in person to **Brooke, John R.**, Major General, commanding Camp George H. Thomas, Chickamauga National Park, for duty with the troops in the field.

Torney, George H., Major and Surgeon, is relieved from duty at the United States Military Academy, West Point, N. Y., and will proceed to New York city and take charge of the hospital ship Vigilancia under detailed instructions from the surgeon general.

Willcox, Charles, Captain and Assistant Surgeon, is relieved from duty at Fort Bliss, Texas, and ordered to report in person to the commanding general of troops in the field at Mobile, Alabama.

Wilson, James S., First Lieutenant and Assistant Surgeon, will be relieved from duty at Fort Caswell, North Carolina, upon the arrival at that post of **Roberts, Frank**, Acting Assistant Surgeon, and will report in person to the commanding general of the troops in the field at Chickamauga National Park.

Society Meetings for the Coming Week:

Monday, *May 16th:* American Laryngological Association (first day—Brooklyn); New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society.

Tuesday, *May 17th:* American Orthopædic Association (first day—Boston); Illinois State Medical Society (first day—Galesburg); Medical Association of Missouri (first day—Excelsior Springs); Medical Society of the State of Pennsylvania (first day — Lancaster); American Laryngological Association (second day); New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Chemung (annual) and Kings, N. Y.; Hampden, Massachusetts, District Medical Society (annual—Springfield); Baltimore Academy of Medicine.

Wednesday, *May 18th:* Iowa State Medical Society (first day—Des Moines); American Orthopædic Association (second day); Illinois State Medical Society (second day); Medical Association of Missouri (second day); Medical Society of the State of Pennsylvania (second day); American Laryngological Association (third day); Medico-legal Society, New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Springfield, Massachusetts, Medical Club (private).

Thursday, *May 19th:* Iowa State Medical Society (second day); American Orthopædic Association (third day); Illinois State Medical Society (third day); Medical Association of Missouri (third day); Medical Society of the State of Pennsylvania (third day); New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private); Medical Society of City Hospital Alumni of St. Louis; Atlanta Society of Medicine.

Friday, *May 20th:* Iowa State Medical Society (third day); New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynæcological Society.

Births, Marriages, and Deaths.

Born.

Chapman.—In New Orleans, on Thursday, April 28th, to Dr. and Mrs. Isaac C. Chapman, a son.

Married.

Bayon — Maspero. — In New Orleans, on Thursday, April 28th, Dr. Henry Bayon and Miss Jeanne Maspero.

Bilhoefer—Semon.—In New York, on Tuesday, April 12th, Dr. Andrew J. Bilhoefer and Miss Adele Semon.

Carter — Cook. — In Heidelberg, Mississippi, on Wednesday, April 20th, Dr. Prentiss A. Carter, of Hattiesberg, Mississippi, and Miss Rebecca Cook.

Emmer — Wiltz. — In St. Martinville, Louisiana, on Wednesday, April 27th, Dr. Albert Emmer, of New Iberia, Louisiana, and Miss Marie Wiltz.

Folse — Morvant. — In Thibodaux, Louisiana, on Wednesday, April 27th, Dr. Charles A. Folse and Miss Mary Morvant.

Hill—Muecke.—In Rochester, on Monday, May 2d, Mr. Walter H. Hill and Miss Louise Muecke, daughter of Dr. Franz Muecke.

Rogers—Pitot.—In New Orleans, on Tuesday, April 19th, Dr. Gabriel G. Rogers and Miss Marie P. Pitot.

Scott—Forno.—In New Orleans, on Thursday, April 28th, Dr. Joseph Tilford Scott, Jr., and Miss Françoise Florestine Forno.

Vanderpoel—Stickler.—In Orange, N. J., on Wednesday, April 27th, Dr. Frank Vanderpoel and Miss Nannie M. Stickler.

Died.

Arcularius.—In New York, on Tuesday, May 10th, Elsa, daughter of Dr. Louis Arcularius.

Douglass.—In Montgomery, Alabama, on Friday, April 22d, Dr. James D. Douglass.

Echols.—In Birmingham, Alabama, on Thursday, April 28th, Dr. Edward D. J. Echols.

Furbeck.—In Gloversville, N. Y., on Monday, May 2d, Mrs. S. H. Furbeck, wife of Dr. Peter R. Furbeck, in the fifty-eighth year of her age.

Hazen.—In New York, on Friday, May 6th, Mrs. Annie Louise Hazen, wife of Dr. Henry C. Hazen, and daughter of the late Dr. J. Lewis Smith.

Quimby.—In Jersey City Heights, on Friday, May 6th, Dr. Isaac Newton Quimby, in the sixty-eighth year of his age.

Wannamaker.—In Orangeburg, South Carolina, on Saturday, April 23d, Dr. William C. Wannamaker, in the fortieth year of his age.

Watkins.—In New Orleans, on Sunday, April 24th, Dr. John Minter Watkins, in the forty-ninth year of his age.

Miscellany.

Note on Botanical Nomenclature.—In referring to Professor Kraemer's statement that "the common names of plants are less confusing," Mr. John U. Lloyd, in the May number of the *American Journal of Pharmacy*, says that his experience of later years has made it necessary for him not only to acquiesce in the use of certain common names, but to publicly advocate them. In this connection he cites the euphorbias and eupatoriums as examples, experience having shown that physicians and pharmacists have less trouble in distinguishing their common names than the botanical distinctions. There should, however, he thinks, be a discriminating selection of common names, and the use of such common names as Indian hemp, willow herb, etc., is to be deplored, as they in turn create confusion.

Mr. Lloyd gives the names of the drugs to which, according to his experience, common names should be applied, as follows:

Asthma weed, for *Euphorbia pilulifera* (to distinguish it from other species of euphorbia).

Black haw, for *Viburnum prunifolium* (to distinguish it from *Viburnum opulus*).

Fragrant sumach, for *Rhus aromatica* (to distinguish it from *Rhus toxicodendron*).

Gravel root, for *Eupatorium purpureum* (to distinguish it from *Eupatorium perfoliatum*).

Horse-chestnut, for *Æsculus hippocastanum* (to distinguish it from *Æsculus glabra*).

Spikenard, for *Aralia racemosa* (to distinguish it from *Aralia nudicaulis*).

Spotted spurge, for *Euphorbia hypericifolia* (to distinguish it from *Euphorbia corollata* and *Euphorbia pilulifera*).

Swamp milkweed, for *Asclepias incarnata* (to distinguish it from *Asclepias cornuti* and *Asclepias tuberosa*).

White snakeroot, for *Eupatorium aromaticum* (to distinguish it from *Eupatorium perfoliatum* and *Eupatorium purpureum*).

The National Health Service.—In the May number of the *Sanitarian*, in a leading article on this subject, the writer states that the showing made by the adversaries of the Marine-Hospital Service, at the hearing before the committee on interstate and foreign commerce on February 18th and 19th, is well calculated to strengthen the hands of the Marine-Hospital Service in its present legal status, even though the laws governing that service should not be amended as provided in the Caffery bill. If the subject is taken up again, however, he thinks it is inconceivable that the Spooner bill, with its misconceptions and uncertainties of intention, as displayed by its author, Dr. Wingate, can be made acceptable to Congress. The writer goes on to say that, on being asked by the chairman of the committee to give his views of the authority of Congress to establish a general system of sanitation, as distinguished from quarantine, Dr. Wingate threw himself on the authority of the American Medical and American Public Health Associations. Yet he was constrained to admit that the American Medical Association had not adopted this bill at its last meeting. The committee made a report at that meeting, he said, and the motion was made to adopt the report of the committee and to continue the committee; but through some oversight on the part of the chairman, the motion was not put, the committee was continued, but the report of the committee was not adopted. By correspondence since then with members of that association and other members of the medical profession all over the country, he was thoroughly convinced that this bill voiced the sentiment of the medical profession of the country.

The Academy of Medicine in New York had adopted it, and all medical associations that have given any attention to the subject had adopted it, besides a large number of business associations, such as the New York Chamber of Commerce, and, he was very positive, the New York Board of Trade and Transportation. . . .

England, which had to-day the best sanitary laws in the world—and that fact was recognized generally—had no quarantine; because her sanitation was in such condition that she did not require quarantine. When a disease invaded her shores her sanitary conditions were such that they were able to cope with that disease and, without the aid of quarantine, prevent it from spreading.

This, says the *Sanitarian*, is a remarkable mistake for a State health officer who has been so long in service as Dr. Wingate has. While England eschews the word quarantine, her laws provide that "Any ship or vessel lying in any river, harbor, or other water not within the district of a sanitary authority, will be deemed to be within the district of such sanitary authority as may be prescribed by the local government board; and where no authority has been prescribed, then of the sanitary authority whose district nearest adjoins the place where such ship or vessel is lying." Indeed, the port sanitary officers in England are endowed with powers and appliances comprehending all the instrumentalities essential to effective sanitation at the port of arrival. These comprise: Isolation hospitals for the care of infectious diseases; means of transporting such cases to hospitals and officers from ship to ship; apparatus for disinfection; special provision against the landing of rags or other merchandise or things liable to infection from infected ports. And the medical officer of health is empowered and required to take such steps as may appear to him to be necessary for preventing the spread of infection.

The American Laryngological Association.—The twentieth annual congress will be held in Brooklyn on May 16th, 17th, and 18th, under the presidency of Dr. Thomas R. French, of Brooklyn. In addition to the president's address, the programme includes the following papers: Clinical Illustrations of Malignant Growths of the Epiglottis, by Dr. J. Solis-Cohen, of Philadelphia; The Laryngo-tracheal Neoplasms of Tuberculosis, by Dr. J. N. Mackenzie, of Baltimore; The Surgical Treatment of Lupus and Tuberculosis of the Larynx in Connection with Tracheotomy, by Dr. E. L. Shurly, of Detroit; Laryngeal Tuberculosis at the Loomis Sanatorium, by Dr. W. F. Chappell, of New York; Foreign Body in the Larynx, and a Modification of Kirstein's Autoscopy, by Dr. E. Fletcher Ingals, of Chicago; The Use of the Bernays's Sponge in the Nose and Nasopharynx, by Dr. W. K. Simpson, of New York; Enlargement of the Lingual Tonsil as a Cause of Cough, by Dr. Beverley Robinson, of New York; A Report of a Case of Fracture and Depression of the Anterior Wall of the Maxillary Antrum, with Restoration of the Depressed Wall—The Treatment of Fractures of the Nose, with a Demonstration of Apparatus, by Dr. John O. Roe, of Rochester; Submucous Operations on the Nasal Sæptum, with Attempts at Membrane Grafting, by Dr. T. Amory De Blois, of Boston; Early Diagnosis in Whooping-cough—Natural Immunity—Leprous Ulcer of the Lip, by Dr. H. L. Wagner, of San Francisco; The Hoarseness of Singers, by Dr. S. W. Langmaid, of Boston; Spasm of the Tensors of the Vocal Cords, by Dr. J. Edwin Rhodes, of Chicago; On the Use of Schleich's Solutions for Anæsthesia in Nose and Throat Operations, by Dr. Emil Mayer, of New York; A Report of a Case of Lipoma of the Larynx—A Report of a Death following Immediately an Operation for Naso-pharyngeal Adenoids under Chloroform Anæsthesia, with Remarks on Anæsthetics in this Operation, by Dr. F. W. Hinkel, of Buffalo; On the Recurrence of Adenoids after Excision, by Dr. A. A. Bliss, of Philadelphia; Present Methods for the Operative Treatment of Pharyngeal Adenoids, by Dr. D. B. Delavan, of New York; Influence of Lymphoid Hypertrophy on Epilepsy, by Dr. U. G. Hitchcock, of New York; The Upper Respiratory Organs and the General Health, by Dr. J. C. Mulhall, of St. Louis; A Case of Nasal Fibroma. A Supplementary Report, by Dr. W. E. Casselberry, of Chicago; Œdema of the Larynx, by Dr. C. C. Rice, of New York; Further Results of Operative Treatment of Frontal Sinusitis, by Dr. J. H. Bryan, of Washington; A Case of Disease of the Accessory Sinuses, by Dr. J. W. Farlow, of Boston; Observations on the Value of Lactic Acid as a Remedy for Certain Conditions of the Upper Respiratory Tract, by Dr. Alexander W. MacCoy, of Philadelphia; Some Observations on the Use of Aqueous Extract of Suprarenal Glands in the Upper Air-passages, by Dr. H. L. Swain, of New Haven; The Uvula in its Relations to Various Abnormal Conditions, by Dr. G. B. Hope, of New York; Thyreotomy for Papilloma of the Larynx, by Dr. T. Melville Hardie, of Chicago; and Sarcoma of the Nasal Sæptum, by Dr. Payson Clark, of Boston.

The Chicago Academy of Medicine.—At the meeting of May 13th Dr. Reuben Peterson was to read a paper on Nerve Transplantation, and Dr. G. F. Lydston was to read one on Internal Urethrotomy.

The "Chutmuck" Special Train from St. Louis to Denver.—The Missouri Pacific Railway Company, St. Louis, Iron Mountain, and Southern Railway Company, and leased, operated, and independent lines give notice that for the meeting of the American Medical Association, to be held at Denver in June, the Missouri Pacific Railway has arranged to run a special through train from St. Louis to Denver, to be known as the "Chutmuck Special," making the trip *via* Kansas City, Pueblo, and Colorado Springs. They add that this will be one of the handsomest trains ever run in the West, consisting of compartment sleeping cars, dining car, buffet car, etc., affording special accommodations for families of yourself and friends. Due announcement as to dates, schedule, etc., will be made later on.

The Medical Society of City Hospital Alumni, St. Louis.—The programme for the meeting of Thursday, May 5th, announced the following items: Report of an Unusual Case of Cancer of the Stomach, by Dr. Albert E. Taussig; Report of a Case of Meningitis, by Dr. M. A. Bliss; Presentation of a Specimen showing Hæmorrhage into the Pons, by Dr. Louis Drechsler; The Sanitary Redemption of Havana—the Need and the Means, by Dr. George Homan; and an exhibition of apparatus for the application of dry hot air, by Dr. Vilray P. Blair.

The Illinois State Medical Society.—The forty-eighth meeting will be held in Galesburg, on May 17th, 18th, and 19th, under the presidency of Dr. J. M. G. Carter, of Waukegan. In addition to the president's address, the following papers are included in the preliminary programme: Malnutrition in Infants, by Dr. Frank P. Norbury, of Jacksonville; Infantile Scurvy, by Dr. Isaac A. Abt, of Chicago; Tumor of the Lung, by Dr. Frank Billings, of Chicago; The Diagnosis of Pleurisy with Effusion, by Dr. James B. Herrick, of Chicago; The Ætiology and Pathology of Pleurisy with Effusion, by Dr. Ludwig Hektoen, of Chicago; The Treatment of Pleurisy with Effusion, by Dr. T. J. Pitner, of Jacksonville, and Dr. L. T. Taylor, of Springfield; A Case of Patent Ductus Botalli, by Dr. Frank S. Johnson, of Chicago; Chelidonium Majus in Inoperable Carcinoma, by Dr. C. C. Hunt, of Dixon; Acute Tonsillitis, by Dr. P. C. Thompson, of Jacksonville; The Presence of the Smegma Bacillus in the Urine, and its Staining Qualities, by Dr. J. L. Miller, of Chicago; A Case of Brain Disease, by Dr. W. M. Friend, of Sumner; A Positive Antidote for Strychnine, by Dr. L. R. Ryan, of Galesburg; Epileptics, by J. B. Maxwell, of Mt. Carmel; Remarks on the Treatment of Neurasthenia, by Dr. Hugh T. Patrick, of Chicago; Diabetic Gangrene, by Dr. N. S. Davis, Jr., of Chicago; The Significance of the Diastolic Murmur in the Diagnosis of Aortic Insufficiency, by Dr. B. W. Sippy, of Chicago; A Pharmacological Study of the Action of Digitalis on the Mammalian Heart and Circulation, by Dr. S. A. Mathews, of Chicago; Modified Milk, by Dr. J. S. Churchill, of Chicago; A Summary of the Laws Governing Medical Practice in other States, by Dr. Julius Kohl, of Belleville; Defects of the Laws of this State Governing Medical Practice, by Dr. G. N. Kreider, of Springfield; What should be the Law in this State? by Dr. H. N. Moyer, of Chicago; The Advantages of Separating the State Board of Health from the Licensing Board, by Dr. L. R. Ryan, of Galesburg; A Summary of the Laws Governing Expert Testimony in other States and Countries, by Dr. J. O. De Courcy, of St. Libory; Defects of the Laws Governing Expert Testimony in this State, by Dr. Sanger Brown, of Chicago, and Dr. Frank P. Norbury, of Jacksonville; The Outlines of a Law that would Remedy the Defect, by Dr. D. W. Graham, of Chicago; The Legislation Necessary to Promote Better Sanitation throughout the State, by Dr. J. A. Egan, of Springfield; Labor in Fat Women, by Dr. J. B. De Lee, of Chicago; The Repair of Bones, by Dr. H. C. Fairbrother, of East St. Louis, Missouri; The Surgical Treatment of Cavities in Pulmonary Tuberculosis, by Dr. H. M. Thomas, of Chicago; The Straits of Early Life, by Dr. J. O. De Courcy, of St. Libory; A Contribution to the Surgery of Accidental Wounds of the Knee Joint, by Dr. D. A. K. Steele, of Chicago; Synovitis: Remarks on the Treatment, by Dr. C. W. Sibley, of Fairfield; The Treatment of Minor Surgical Injuries with Special Reference to Bandaging, by Dr. J. J. Connor, of Pana; Laminectomy in Pott's Disease, by Dr. A. H. Ferguson, of Chicago; Urinary Fistulæ, by Dr. William Cato, of Decatur; Early Operation for Uterine Cancer, by Dr. F. H. Martin, of Chicago; Congenital Phimosis and Some of its Effects, by Dr. E. C. Lemen, of Alton; A Substitute Operation for Resection in Certain Extensive Injuries to the Intestinal Wall, by Dr. E. C. Dudley, of Chicago; Appendicitis, by Dr. Emma B. Standley, of Alexis; The Pathological Histology of Intestinal Anastomosis, by Dr. J. Frank, of Chicago; Atrophic

Rhinitis, by Dr. E. T. Dickerman, of Chicago; A Case of Extra-uterine Pregnancy, by Dr. O. B. Will, of Peoria; The Diagnosis of Pulmonary Cavities, with Special Reference to their Surgical Treatment, by Dr. R. H. Babcock, of Chicago; Surgical Shock, by Dr. Robert A. Kerr, of Peoria; Interesting Cases of Mastoid Disease, by Dr. Norval H. Pierce, of Chicago; A Report of Cases of Cæsarean Section, by Dr. A. McDiarmid, of Chicago; and The Toxæmia of Pregnancy, by Dr. J. T. McAnally, of Carbondale.

Professional Secrecy should be held Paramount to the Thirst for Scientific Information.—Under the heading of The Destiny of the Case-book, the *Medical News* for May 7th gives expression to views in which we are fully in accord with it. In substance, the *News's* article is as follows:

An interesting question of professional privilege is suggested by a clause in the will of a late prominent physician of New York. This clause directs that all the notes and histories of patients in his possession at the time of death shall be handed over to a brother practitioner who, during the testator's life, was in no way connected or identified with him in practice. As the legator was not only a most indefatigable note-taker, but also a prominent specialist and consultant for many years, there are naturally within the covers of his case-book the voluntary unrestricted confidences of members of many families. It would seem that the dead physician's object in bequeathing his case-book was to insure the completion of many important family records and, to a large degree, contribute to the solution of questions of family and hereditary disposition. This, at least, is our interpretation, as the legatee is instructed to give them, on the cessation of his usefulness, to such a person as will, in his judgment, be competent and willing to carry out the original plan of following out and studying the manifestations of disease as they show themselves in the various branches of the families whose physical, moral, and intellectual shortcomings are therein recorded. From a utilitarian point of view, this seems very well, and unquestionably much light could be thrown on the intricacies of the laws governing heredity if the mandates of the original testator could be carried out. We are of the opinion, however, that such action would be decidedly subversive of the canons of professional conduct. The physician has no more right to share with another the confidences imposed upon or granted to him by patients than the confessor has to publish for the benefit of an inquisitive and scandal-mongering world a volume made up of the sad stories with which his flock has burdened his ears.

The case-book should die with the doctor, so far as it is the record of individuals. This does not necessarily imply that the facts set forth by such histories may not be used, if expedient, for the solution of problems in ætiology or symptomatology. But when they are used for such purposes, the individuality of the person should not be known.

We are convinced that this is right from a legal point of view, and we feel certain that it is sound morally. It is a presumption on the part of the physician to claim the right to lay before the eyes of any person or persons secrets, family skeletons, evidences of moral frailty, perhaps even crimes, of which no one else had knowledge and information of which has been granted to him only because the guild of which he is a member stands as a prototype of integrity and honor. There is a written law which states that the physician shall not disclose the confidences of the consulting-room and the sick chamber, but mandates of obedience to it are not so binding as is the unwritten covenant between every patient and physician that the trust shall be inviolate.

The destiny of the case-book should be cremation; it should be consigned to the flames unopened and unread; thus will the physician avoid the opprobrium of a recalcitrant covenanter.

Schleich's Infiltration Anæsthesia.—Dr. Krecke (*Pædiatrics*, May 1st), of Munich, as the result of extensive experience, reports that this method may be employed with great advantage in children, rendering operations painless in an absolutely safe manner. In tracheotomy this method is said to be perfectly satisfactory to the operator, a case of a child four years of age being being referred to in which the child did not move in the least during the operation, while the field was plainly in sight and the trachea could be opened without excitement. A thorough mastery of the method and full acquaintance with Schleich's directions are essential, and its application should be made at first in simpler operations, such as for phimosis, etc.

An Explosion of Potassium Chlorate and Sodium Salicylate.—On April 6th (*Canadian Pharmaceutical Journal and Gazette*, May) a drug clerk was engaged in rubbing up in a Wedgwood mortar a mixture of two parts of potassium chlorate and one part of sodium salicylate according to a prescription, when a terrific explosion took place, shivering the mortar into a thousand pieces, hurling the drug clerk back unconscious, and with a big gash on the cheek. The sleeves of his coat were torn into shreds. The door and windows to the right and left, some forty and twenty feet away respectively, were blown out with great violence, the contents of the window being hurled into the street. The shop caught fire, which was, however, soon extinguished. The unfortunate drug clerk was said to be in a precarious condition from shock. The quantities of the drugs used, to produce so terrific an effect, are not stated.

Saccharin as an Intestinal Antiseptic.—After a review of the work hitherto done in search of intestinal antisepsis, Dr. Descheemaeker (*Echo médical du Nord*, April 10th) records a series of experiments upon rabbits, and subsequently upon the human subject, both in health and in disease, to ascertain if a rapid diminution of intestinal ferments could be obtained by the daily employment of saccharin. The saccharin used was Monnet's No. 3, and is a saccharinate of sodium, containing, however, ninety per cent. of pure saccharin. It was given in doses of from fifteen to thirty grains once daily about two hours before the principal meal. The author concludes that his experiments recorded show that the saccharin used by him must take rank among the best intestinal antiseptics. The results, both on rabbits and on man, are constant. In all the experiments the ordinary germs of the intestine, and especially the *Bacterium coli commune*, were markedly decreased in numbers. The ingestion of the remedy was well borne by the sick, and the daily analysis of their urine never displayed a trace of albumin or any other abnormal product, while the urea remained constant throughout the experiments.

Medical Reticence.—The *Columbus Medical Journal* for May 3d, after referring to the appearance in the police court of Mrs. Alice G. Corwin, "of Nerve Force fame," says:

"In this same connection we might add that in conversation with a practitioner of the North Side the latter informed us that he had had a call from Schlatter, the Divine Healer, who was rounding up a two wecks' spree, and was anxious for a fifteen-cent lift to get something to steady his nerves."

While this may be an interesting side light on one of the protean manifestations of quackery, the conduct of the practitioner who thus "gave away" his patient can only call for severe reprehension.

Immunization against Serpent Venom.—M. Calmette, in a paper On the Mechanism of Immunization against Serpent Poisons, read before the International Congress of Hygiene at Madrid (*Presse médicale,* April 16th), points out that the study of serpent poisons is particularly suitable for increasing the precision of our knowledge with regard to toxines, both on account of the direct analogy which the one presents to the other, and also because of the greater rapidity and precision of their action, which allow the physiologist to make infinite variations in his experiments without exposing him to sources of fallacy surrounding the investigation of toxines arising from different cultures, or the employment of animals whose individual resistance in respect of certain poisons is very variable. His experiments published since 1893 have established: 1. That the poisons of all the venomous animals in different parts of the world present very direct analogies with each other, and that an animal artificially immunized against a very active poison (*e. g.,* that of the cobra or the *Bothrops canceolatus*) is also refractory to all less active poisons. 2. That the serum of animals protected against large doses of very active poisons possesses protective and curative properties so intense that it is capable of conferring in a few minutes on fresh animals absolute insensibility to all these poisons. 3. That the amount of curative serum that an animal (such as the guinea-pig, the rabbit, and the dog) should receive, when inoculated with a venom, is inversely proportional to its weight, and directly proportional to the amount of venom received. For example, a cubic centimetre and a half of the author's serum suffices to immunize in a few minutes a rabbit weighing two kilogrammes against a dose fatal by intravenous injection in fifteen minutes; while to protect a dog weighing ten kilogrammes against a dose that proves fatal in three or four hours when administered subcutaneously, the same dose of serum will be sufficient. After remarking that the value of serum treatment against venomous bites is now too well established to need argument, the author states that, in conjunction with M. Guérin and M. Wehrmann, he has conducted at the Pasteur Institute of Lille a series of experiments to determine the part played respectively by the nervous system, the leucocytes, and the various fluids of the organisms in the production of artificial immunity against venoms. He considers the researches of Fraser and Phisalix upon the preventive potency of bile, glycocholate of sodium, of cholesterin, and also of the tyrosin of the carrot or dahlia tubers against serpent venom, comparing them with the effect of antitetanic serum, the serum of dogs inoculated against hydrophobia, certain normal serums of the horse and dog, and even, in some cases, normal beef bouillon freshly prepared. An investigation was made whether in these cases a true immunity of greater or less duration was afforded, or simply a cellular resistance, more or less transitory and devoid of any specific character. In respect of bile, M. Calmette found that this secretion undoubtedly possessed, as asserted by Fraser, the property of destroying the venom *in vitro,* provided that doses very near the fatal limit were employed. All the venoms, as well as certain microbic toxines, that of tetanus, for instance, when left in contact for forty-eight hours with a certain quantity of fresh bile, lost their toxicity. Heating the bile to a point short of 248° F. enfeebled but did not destroy its toxicity. But when the bile was injected forty-eight hours before the venom, even in doses relatively large (*e. g.,* one and a half to two cubic centimetres of ox bile for a guinea-pig weighing five hundred grammes) no preventive action was observable, neither was any therapeutic effect noticeable when it was injected after the venom, thus clearly showing that it was the admixture only of these substances which was effective in destroying toxicity. Particular attention was called to the necessity for employing on the check animals doses certainly fatal in two or three hours; for where doses only fatal in five or six hours were employed, about four out of ten guinea-pigs were found to recover from the illness produced without the aid of any preventive injection. Injection of the venom into the gall-bladder of rabbits caused death after a protracted interval, probably because the venom was absorbed before the bile had had time to act. Cholesterin (Merck) dissolved in ether was found to possess no real protective power, though it retarded death for from one to five days when injected from two to four hours before a dose of venom ordinarily fatal in three or four hours. If injected forty-eight hours previously, it was without effect. Similar effects to these, it was found, were producible by different substances (*e. g.,* fresh normal bouillon, certain normal, antitetanic, or antirabic serums, etc.). But this could not be regarded as indicating any real specificity; it should rather be regarded as a transitory stimulation of the leucocytes whose mission was to seize and hold the venom. The important rôle of the leucocytes was shown by the facts that the injection of venom was always followed by an increase of leucocytosis, and that a dose of venom slightly diluted with fresh leucocytic exudation invariably retarded the intoxication. In regard to the nervous system, emulsions of neither rabbits' nor serpents' brains exercised the least antitoxic power either *in vitro* or protectively. Experiments were also made to see if the injection of certain substances (*e. g.,* curare, chloral, sulphate of strychnine, etc.) known to act energetically upon the cerebrum, the cerebellum, and the spinal cord, would destroy the passive immunity of rabbits produced by antivenomous serum, and it was found that they did not. M. Calmette concludes as follows: 1. The antitoxic action of bile, cholesterin, etc., as well as that of certain normal, antitetanic, antirabic, and other serums, can not be regarded as a true antitoxic—*i. e.,* specific—action in regard to venom. It is simply a means of cellular stimulation whose effects are very transitory, and which can be produced by very different substances. 2. After the injection of antivenomous serum, the serum manifests its protective action, notwithstanding that the resistance of the nervous elements may have been diminished by the injection of various poisons which act upon them.

Acetate of Thallium in Night Sweats.—M. Combemale has reported to the French Academy of Medicine

(*Nouveaux remèdes,* April 24th) that he had used acetate of thallium on thirty patients, tuberculous or not, afflicted with excessive sweats, and every case but one had been relieved. The daily amount is from one and a half to three grains administered in pills. It is not advisable to prescribe the remedy for more than four days in succession, its effects persisting for eight or ten days. It has, however, caused total and rapid alopecia in three cases. But the patients were previously losing their hair, and had, moreover, taken considerable doses for upward of a month, whence caution is needed only to avoid too long administration or too frequently repeated doses.

Partial Resection of the Eyeball.—Dr. Ernest Hall (*Annals of Surgery,* May) reports a method which he considers fulfills the desideratum—viz., immunity from local and sympathetic inflammation, with satisfactory movement of the artificial eye. The strategic parts of the eyeball, he says, are the ciliary region in front and the sclero-optic junction behind. The principal traumatism and sepsis leading to loss of function are in the former location, and the conveyance of trouble, sympathetic or septic, takes place through the latter. With these parts, the retina, and the vitreous removed, the remaining parts of the eyeball, he holds, should be non-irritating and harmless, and serve with the attached muscles and motor nerves as a movable pad upon which the artificial eye can rest. He thus describes his operation. The instruments required are speculum, sharp-pointed scissors, catch forceps, and curette.

Complete Anæsthesia.—With speculum in place, the scissors are inserted about twenty-five millimetres [2.5 mm. ?] behind the sclerocorneal junction, sufficient to include the ciliary body, and complete section made, thus removing the whole front of the eyeball. The vitreous is then evacuated and the retina removed with the curette; the hæmorrhage here is usually profuse, but easily controlled by hot water and pressure. The speculum is then inserted within the ball, and thus made to hold both eyelids and edges of the sclerotic opening. The point of entrance of the optic nerve is then grasped with toothed forceps and the scissors are inserted as close to the nerve as possible, to avoid wounding the ciliary arteries, and a circular incision is made in sclerotic, freeing the optic nerve, which is then drawn forward and severed about twenty-five millimetres [2.5 mm. ?] from the sclerotic junction, thus removing a section of the optic nerve. A laryngeal head-mirror is useful here to concentrate the light within the sclerotic cavity. A piece of gauze is inserted and the sclerotic and conjunctiva are closed vertically in order to give normal tension to the internal and external recti, as lateral motion is of greater importance than vertical. The after-treatment is simple, the gauze may be removed in twenty-four hours. The cavity fills with blood, which becomes partly organized, thus preventing complete collapse of the sclerotic. An artificial eye may be inserted within two weeks.

The resulting advantages alleged are greater prominence of artificial eye, perfect movement between thirty-five degrees laterally and twenty vertically, also diagonal movement, and retention of the normal secretion from the lacrymal ducts, etc.

The Mineral Constituents of the Tubercle Bacillus.—Dr. E. A. de Schweinitz and Dr. Marion Dorset (*National Medical Review,* May) report the results of investigations to see which of the mineral constituents of the animal body are used by the tubercle bacillus in the largest quantity and are consequently most needed for its development. Ash of dried tubercle bacilli to the amount of 1.453 gramme was analyzed after the method prescribed for analysis of the ash of plants, the result being as follows: Na_2O, 13.62; K_2O, 6.35; CaO, 12.64; MgO, 11.55; carbon and silica, 0.57; P_2O_5, 55.23. The results of the examination of the ash of other bacilli—*e. g.,* Cramer's examination of the ash of cholera germs (*Archiv für Hygiene,* vol. xxviii, No. 1)—differ materially from that of the tubercle bacillus. The presence of the great amount of phosphoric oxide and the high percentage of fat in the bodies of the tubercle bacilli give rise to the following reflections of the authors:

Phosphates and cod-liver oil are two materials always strongly recommended in cases of tuberculosis. As the germs of this disease seem to demand in large quantity food containing phosphorus and also rich in fat, it is but a fair supposition to say that, in giving the drugs above mentioned, we are but supplying to the animal body those constituents which are very important for its proper nourishment, the supply of which is continually being levied upon by the germs of the disease. The question might be asked whether in this method of treatment we are not really feeding the bacilli rather than the individual. But just as an exhausted soil can be made valuable by the addition of constituents which are deficient, so may we assume that the administration of specific materials which contain the elements that the germ has utilized, should act in a similar way in increasing the vitality in the animal body.

The Administration of Arsenic per Rectum.—Professor Renaut, of Lyons, has reported to the *Société de thérapeutique* (*Nouveaux remèdes,* April 24th) the results of his experiences with rectal injections of arsenic. It is administered in solution containing a third of a milligramme in five cubic centimetres. Three injections may be given daily. This treatment may be continued for months without having to be interrupted in consequence of gastric intolerance, and consequently it is admirably adapted to obtain the full effect of arsenic when that drug is indicated as a modifier of nutrition. Should any rectal irritation be caused, the addition of a few drops of laudanum will obviate it. This treatment is highly recommended by the author in tuberculosis, especially in the early stage; in diabetes mellitus, and in exophthalmic goître.

The Case of Dr. Kelsey and the Post-graduate Medical School.—One of the newspapers, the *Sun,* comments upon this case in a manner that we think will commend itself to the great majority of physicians. The *Sun* says:

In the case of Dr. Charles B. Kelsey, who was removed from a professorship in the New York Post-graduate Medical School by a majority vote of the board of directors of that institution, the appellate division of the supreme court has reversed the decision of the special term directing his reinstatement. The higher court holds that the board had power to remove a member of the faculty by a simple majority vote, in cases where no charge of misconduct was made, but that a vote of three fourths was necessary to effect a removal upon charges. In the first instance, the power is declared to be absolute, and in the second it is judicial. "It seems reasonable," says Mr. Justice Barrett, "that a majority vote should have been deemed sufficient for a removal at pleasure, while a three-fourths vote should have been required for a removal upon charges. When a professor is removed at pleasure, no stigma attaches to the act of removal. His services are no longer required, and he is told so. That is what, in substance, such a removal amounts to." No doubt the learned judge is right in a strictly legal sense, and that the law imputes no disgrace to a person thus removed; but to say that "a mere causeless dismissal," as he calls it, of the character here under consideration, is not a serious injury as matter of fact is to shut our eyes to the realities of the case.

The Relation of Throat and Nose Affections to General Medicine.—Dr. W. F. Chappell (*Laryngoscope*, March; *Denver Medical Times*, April) calls attention to the common dependence of throat and nose affections on the state of the general system. Atrophic rhinitis, enchondroma, perforation of the nasal sæptum, recurring epistaxis, etc., are often secondary to contagious affections; marked redness of the mucous membrane and great pain and stiffness of surrounding tissues, to latent gout or rheumatism; primary syphilitic lesions of the upper air-passages have been mistaken for diphtheria, and congenital syphilitic ulcerations of the nasal sæptum, soft palate, and larynx for tuberculosis and malignant disease. Acute rhinitis and laryngitis often spread downward to the trachea and bronchi, and conversely, though laryngeal tuberculosis is nearly always secondary to that of the chest. Gastro-intestinal disorders play their part by causing venous congestion, especially round the base of the tongue, with glandular swelling there and on the posterior pharyngeal wall. Lithæmia is also responsible for much glandular-tissue increase. Hysteria is a factor in the production of aphonia, œsophagismus, and dysphagia; nasal headaches are often due to improper drainage or disease of the accessory sinuses. In all these conditions, full scope must be given to internal medication, and topical treatment not allowed to usurp exclusive dominion.

Defeat of the Druggists' Shorter-Hours Bill.—*The Druggists' Circular and Chemical Gazette* for May, commenting on the defeat of the shorter-hours bill for druggists' employees, says that the failure of the bill will probably not be much regretted by those whom it was intended to benefit. It thinks the movement went wide of the purpose of securing an amelioration of the conditions which at present govern service in the retail drug trade when it undertook to attain the effect by legislation, and that it speedily developed into a trades' union episode the success of which would have meant the affiliation of the drug clerks with whatever other bodies of wage-earners were included in the organizations whose political influence was sought on behalf of this bill. The "walking delegate" and the "sympathetic strike," therefore, became possibilities for the drug clerk to consider by reason of his choosing as a bedfellow the plumber, the hod-carrier, and the 'longshoreman. Such conditions, it thinks, would have been fatal to the hopes of those who are striving for the social and professional status of the pharmacist. At the same time the movement has done good by the creation of a better understanding on the part of the public of the exactions which they have hitherto imposed upon the druggist.

Medical Superstitions in Flanders.—Dr. P. Haan (*Echo médical du Nord*, April 24th) records some curious superstitions current in Flanders. A child to whom he was called in consultation was dying of meningitis, and a prognosis of fatal result was given, when the mother gravely stated that she knew there was no hope because she had applied the pigeons and the third alone had struggled. On further inquiry, he found this referred to a custom of placing three pigeons in succession under the child with the beak in its anus. If the pigeon swells out, struggles, and cries, then only the result will be favorable. The supposition is that the pigeons will empty the bowel, constipation being, of course, a constant symptom of meningitis. Another common superstition consists of splitting the pigeon open with a single blow of a knife from head to tail, and applying it warm on a side affected with pleurisy. If the bird's blood darkens very rapidly the prognosis is excellent. The same measure is adopted by applying the pigeon to the head in meningitis. A third method lies in taking away the yet palpitating heart and placing it on the part affected—*e. g.*, the head in meningitis. Here the pigeon has the reputation of healing "by its electricity." Anginas also are treated in Holland and Belgium by putting in the patient's mouth a strong frog, which ought to swell out and darken in color in order to withdraw the disease. The author asks, "Does it not seem that in all these practices there is, as it were, a survival of the ancient auguries for which the inspection of the entrails of victims was so important, or may it be that the adherents of the method have only in view a kind of revulsive effect?"

Anatomical Researches on Yellow Fever.—Professor E. Klebs (*Journal of the American Medical Association*, April 16th), prompted by the analogy of research in regard to malaria, dysentery, etc., has conducted researches into the anatomical condition of the liver in yellow fever by means of a new method of staining. The sections, which must not be thicker than one one-hundredth of a millimetre, are stained with a solution consisting of seven parts of the author's parafuchsine-kresol solution mixed with three parts of a concentrated solution of methylene blue in five-per-cent. borax solution and three parts of one-per-cent. methylene green. Decoloration is effected carefully by alcohol or by aniline oil and xylol (Weigert). The blue color of the section must not be eliminated. In specimens so stained the author finds between the lines of the bluish tinged liver cells intensely stained red masses, oftentimes forming stripes and masses larger than the liver cells. The last are transformed and nearly destroyed by fatty degeneration in the median parts of the acini, and compressed by the red masses, whereas in the centre and peripheral parts only isolated red spots are disposed between the liver cells. The red masses consist of round, oval-shaped, or irregular balls which will not conglutinate.

With higher powers, one remarks two constituents of these red masses, very deep stained round, oval, or egg-shaped bodies, and slightly stained masses, surrounding the first. Oftentimes in one red mass are included two or more of these bodies, somewhat larger than a human red blood-corpuscle, but oval-shaped and of quite homogeneous structure. It is not difficult, he says, to demonstrate that the greater, slightly reddened masses are no other than very enlarged and, in their coloring qualities, deeply changed leucocytes. Oftentimes they contain the blue-stained nucleus, somewhat altered, elongated, or otherwise deformed. We can seldom detect well-conserved leucocytes which contain the red body included in the blue-stained protoplasm. But not all of these red bodies are included in cells. We also find them free between the liver cells, and observe here the largest forms, which measure more than thirteen micra in length and twelve in breadth, mostly egg-shaped, with one broader and one smaller pole. These contain, mostly, a greater or smaller number of vacuoles and brownish pigment. These larger bodies are not alone situated between, but also in the interior of the liver cells.

Professor Klebs considers that the sharply defined form of these bodies, their different staining, their disposition in the interstitial tissue and in the liver cells, their forming of vacuoles and pigment in the more advanced stages, certainly indicate them to be parasites of the class of protozoa. In the stomach and duodenum the same oval-shaped and red-staining bodies were always present. Certain blackberrylike forms, circular groups of small round bodies, not present in the liver, are found there also, and it is suggested that they represent sporulation. From these investigations Professor Klebs considers it likely that the source of the disease is first a true gastro-duodenitis, remaining such in the milder, lingering, or endemic cases of some countries, but becoming epidemic with the migration of protozoa into the liver, and concludes as follows: "I will repeat that this new theory of yellow fever, announcing the affection as a gastro-duodenitis, with consequent atrophy of the liver, originated by certain protozoa, must be supported by the examination of yellow-fever patients. I hope to fulfill this task, but I think that we shall now be better prepared to meet this work of high pathological and hygienic importance to the United States."

A Summary of a Year's Progress in Medicine.—At the recent annual meeting of the South Carolina Medical Association, held in Harris Lithia Springs on April 13th, Dr. William Hutson Prioleau, of Summerville, presented a report on medicine in which he said that this age might well be called the age of serotherapy, organotherapy, and antitoxine treatment.

Within the past two years Koch had brought out his new tuberculin (T. R.). This had some advantages over the old tuberculin, but it had not been generally accepted. It was preferable to the old product because of the smaller number of cases of œdema of the larynx that occurred after its use.

Dr. Prioleau said that he was still using Paquin's serum with good results, and intended to continue its use until he found something better. Hirschfelder, of California, had written an article on what he called oxytuberculin, or the oxidized toxines of the tubercle bacilli. As to its efficiency, we should have to await further experiments.

The reporter then called attention to the treatment of tuberculosis with nucleinic acid. It had been maintained that the nucleinic acid of yeast, when taken into the system, produced hyperleucocytosis, and thus increased the great army of defenders. He had used nuclein in but one case of tuberculosis, and had been surprised to see how much the patient improved under it. One great advantage of the nuclein treatment was that the nucleinic acid could be given either by the mouth or hypodermically.

There were few now that did not believe in antitoxine for diphtheria; the truth was we had been compelled to accept it, for the results had been so remarkable.

Huber and Blumenthal had recently experimented with the blood of persons convalescent from scarlet fever, measles, pneumonia, and erysipelas. They reported that all these diseases were mitigated and shortened, but that defervescence in the cases of pneumonia was not hastened.

Tommasoli, of Palermo, had reported two cases of severe burns treated, one with a brilliant result, with artificial serum containing sodium chloride and sodium bicarbonate.

Tetanus had been successfully treated with antitetanic serum. Foster and Coffin, of Kansas City, Mo., had each reported a case.

Widal's agglutinativeserum reaction in typhoid fever had been the subject of much discussion during the past few months. While it was a valuable aid in the early diagnosis, we could not rely on it implicitly, because the colon bacillus produced sometimes the same agglutinative reaction, and it had also been produced with chemicals, such as bichloride of mercury, formaldehyde, hydrogen peroxide, and strong alcohol. It was possible that these agglutinative reactions were due to faulty methods or some error in working; but, nevertheless, it behooves us to be careful about accepting Widal's reaction as a means of making a positive diagnosis in typhoid fever.

Following close upon this serum diagnosis and dependent upon it we had the serum prognosis. Courmont had made a prognosis according to the degree of agglutination present and the time of the disease when the reaction was observed. If there was a progressive rise having its fastigium coincident with the fall in the temperature curve, followed by a descent parallel with that of the temperature, the prognosis was very favorable. In cases that were serious from a clinical point of view a slight agglutinative power was unfavorable. A retarded serum reaction, one not shown until after the seventh day, was met with in both the grave and the very mild cases. A feeble agglutinative power at the height of the fever was of unfavorable import. There had been no progress made in the treatment of typhoid fever, and the cold-water treatment was acknowledged the best at present.

Of equal importance with typhoid fever was malarial disease. For many months past the treatment of malarial disease had been under discussion, particularly in regard to quinine as a specific. In his own work the reporter had not found it a specific, and had frequently cured malarial fever with guaiacol when quinine had failed. In some hands methyl blue had acted well when quinine had been used without success.

No advance had been made in the treatment of cancer. The use of *Chelidonium majus*, which had been brought forward by Denissenko, had not given the good results its author had expected. Many experiments had been made, but in no instance had there been any improvement in the tumor itself. Some experimenters thought that it is not only useless in cancer, but harmful to the general system. Freudenberg had reported some success with this treatment, but he used a strong preparation applied externally. Thus treated, the tumor lost its cauliflower appearance, the odor disappeared, and the bleeding stopped. This did not prevent the inward progress of the cancer, however.

The toxine of erysipelas was still being used by some physicians, but so far nothing definite had been decided upon with regard to it. An old practice recently revived with some success was the treatment of small epitheliomata and degenerated warts with terchloride of antimony. In the reporter's own limited experience it had given excellent results.

Interesting reports were daily being made of the use of the thyreoid gland in cretinism and myxœdema. The thyreoid was also useful in other conditions, such as chorea, prurigo, parenchymatous goître, and rickets. A combination of the iodides with the thyreoid was in some instances more effective than the thyreoid by itself.

Yellow fever was at this time of much interest to us all because of the near approach of summer and also because of the epidemic of 1897. Sanarelli, in July, 1897, had published an article professing to have discovered the bacillus of yellow fever. He calls it the *Bacillus icteroides*. Sternberg had remarked upon the similarity between his bacillus X and Sanarelli's bacillus. In view of certain facts, however, he said, their complete identity in biological characters could not be maintained. He thought the two bacilli might be varieties of the same species, for his had been discovered in Havana, and Sanarelli's in Rio de Janeiro. Sanarelli's bacillus had been found in almost all cases post mortem, and a dog infected with a culture of the bacillus had shown on examination after death all the appearances of yellow fever. Passing from the cause of yellow fever to the destruction of the germ or of its virulence, the reporter said that formaldehyde gas had been used very generally during the epidemic last summer, and seemed to have given satisfaction. Whether it had been effective or not would soon be proved, because our winter had been too mild to destroy the disease-producing germs.

In the matter of vaccination, for the last ten years or more we had been retrograding rather than advancing. By that the reporter meant that we had been too negligent and had done too little vaccination. There should be a vaccination for every birth, another at the age of puberty, and after that one whenever smallpox made its appearance in the neighborhood. The antivaccinationists had helped to spread smallpox by preaching against vaccination. We ought to use the vaccine and we ought to use it frequently. The bovine virus should be used, but it ought to be less virulent. He had seen many vaccination ulcers this year which were so serious as almost to cost the patient his arm or his leg. We should vaccinate under the strictest antiseptic precautions, both before and after, and use only a small amount of the virus. It had fallen to his lot to treat an extensive vaccination ulcer on one of the arms of an Orangeburg student; it had been slow to yield to treatment, so he had used bovinine dressings and the result had been rapid and remarkable.

New Paths in Psychiatry.—On assuming office as president of the New York Neurological Society, at the meeting of May 3d, Dr. Frederick Peterson delivered an address with this title. He said that a recent writer had described psychiatry as the new Prometheus which would wrest from Nature the secret of thought. The anatomist, the cytologist, the chemist, the embryologist, the pathologist, and innumerable other specialists were now engaged in different lines of research connected with the workings of the human body. Of the numerous pathways extending out before us into dimly lighted regions, one of the most intricate was that of physiological and pathological chemistry. The roads of normal and pathological histology and cytology were more traveled. At least one of these roadways leading into the realm of the mind, one which any one in the society might follow with profit, was that opened up by careful clinical study of organic diseases of the brain, in accordance with modern methods from the standpoint of psychology. He believed it to be of the greatest importance to study the quality, intensity, and tone of sensations, the contents, distinctness, and energy of ideas, the evolution, durability, and associations of ideas, disorders of the affective life, such as depression, exaltation, apathy, and irritability, and the disorders of the idea-associations, in the way of memory, attention, rate of flow, coherence, ethical feeling, etc. Our studies of aphasia in the past had been remarkably deficient as regards the psychic side. Doubtless the new psychological theories would, in turn, give place to better ones, but there was a certain charm in sifting the psychical processes down to stimulus, sensation, idea-association, and movement. It became a delight to study the disorders of sensation, disturbance of the memory pictures, derangement of the idea- and judgment-associations, and the influence of these disorders on the actions and conduct of the individual. The psychological laboratories attached to some of our universities, dealing as they did with the normal mind, could not hope to accomplish as much as psychological laboratories attached to asylums for the insane or clinics for nervous diseases in which a large mass of morbid material was collected. The great city of New York, with all its wealth and benevolence, might well lead the New World in the establishment of a psychiatric clinic fully equipped for all modern investigation in this field. A psychopathic hospital would prove a boon in many ways, not the least of which would be the benefit to the insane now gathered into a single pavilion attached to one of the hospitals merely for distribution to various asylums, to the students of medicine, and to those interested in solving the mysteries of mind.

The Marine Hospitals made Available for the Army and Navy.—Surgeon-General Wyman, of the Marine-Hospital Service, has issued the following circular, dated May 2d:

To Medical Officers of the Marine-Hospital Service:

The United States marine hospitals are hereby made available for the reception of the sick and wounded of either the United States Army or the United States Navy, and you are hereby directed, upon a written request of the proper military or naval authority, to receive and care for said patients; the Marine-Hospital Service to be reimbursed the actual cost of maintenance.

The Hepburn Marine-Hospital Service Bill.—Herewith we print the bill as recommended for enactment by the House committee on interstate and foreign commerce. A minority report, signed by Mr. Adamson and Mr. Davis, recommends certain changes in the bill. We inclose in brackets the passages which the minority wish left out, and print in italics the additions and substitutions they wish to make.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That "An act granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service," approved February fifteenth, eighteen hundred and ninety-three, be amended by striking out the following words in section one: "And with such rules and regulations of State and municipal health authorities as may be made in pursuance of or consistent with this act," and striking out section three and inserting the following in the place of said section:

"Sec. 3. That immediately after the passage of this act the secretary of the treasury shall make such rules and regulations as are necessary to prevent the introduction into the United States of any infectious or contagious disease from any foreign port or place, or the spread of such diseases from one domestic port to another, and such necessary rules and regulations as shall be observed by vessels or vehicles departing from foreign ports or places for ports or places in the United States to secure the best sanitary condition of such vessels or vehicles, their cargoes, passengers, and crews, which rules and regulations shall be published and communicated to and enforced by consular, quarantine, and customs officers of the United States and the State and local quarantine officers of the United States. All rules and regulations made by the secretary of the treasury shall operate uniformly, so far as climatic conditions will justify, in the interest of security against the introduction or spread of said infectious and contagious diseases, and shall not discriminate against any port or place. None of the penalties herein imposed shall attach to any vessel from a foreign port, or owner or officer thereof, until a copy of this act, with the rules and regulations made in pursuance thereof, has been posted up in the office of the consul or other consular officer of the United States for ten days in the port from which said vessel sailed, and the certificate of such consul or consular officer, over his official signature, shall be competent evidence of such posting in any court of the United States.

"At any port or place in the United States where the secretary of the treasury shall deem it necessary for the prevention of the introduction of contagious or infectious disease from a foreign port or place that incoming vessels, vehicles, or persons shall be inspected by a national quarantine officer, such officer shall be designated or appointed by the secretary of the treasury, on recommendation of the surgeon-general of the Marine-Hospital Service, and at any such port or place no vessel, vehicle, or person from a foreign port or place shall be admitted to entry or enter without the certificate of said officer that the United States quarantine regulations have been complied with.

"Any vessel sailing from any foreign port without a United States consular bill of health, and arriving within the limits of any collection district of the United States, and not entering or attempting to enter any port of the United States, shall be subject to such quarantine measures as shall be prescribed by regulations of the secretary of the treasury, and the cost of such measures shall be a lien on said vessel, to be recovered by proceedings in the proper district court of the United States and in the manner set forth above as regards vessels from foreign ports without bills of health and entering any port of the United States.

"National quarantine stations now in operation shall be conducted in accordance with the provisions of this act, and the supervising surgeon-general, with the approval of the secretary of the treasury, is authorized to designate and mark the boundaries of the quarantine grounds and quarantine anchorages for vessels, which are reserved for use at each United States quarantine station; and any vessel, or officer of any vessel, or other person, trespassing upon such grounds or anchorages, in disregard of the quarantine rules and regulations, shall be deemed guilty of a misdemeanor and subject to arrest, and, upon conviction thereof, be punished by a fine of not more than three hundred dollars, or imprisonment for not more than one year, or both, in the discretion of the court.

"And any master or owner of any vessel, or any person violating any provision of this act or any rule or regulation made in accordance with this act, relating to inspection of vessels, or relating to the prevention of the introduction of contagious or infectious disease, and any master, owner, or agent of any vessel making a false statement relative to the sanitary condition of said vessel or its contents, or as to the health of any passenger or person thereon, shall be deemed guilty of a misdemeanor and subject to arrest, and, upon conviction thereof, be punished by a fine of not more than five hundred dollars, or imprisonment for not more than one year, or both, in the discretion of the court.

"Medical officers of the United States, duly clothed with authority to act as quarantine officers at any port or place within the United States, and when performing such duties, are hereby authorized to take declarations and administer oaths in matters pertaining to the administration of the quarantine laws and regulations of the United States.

"The secretary of the treasury shall, whenever in his judgment it is necessary, make rules and regulations to prevent the introduction of infectious or contagious diseases into one State or Territory, or the District of Columbia, from another State, Territory, or the District of Columbia, and when such rules and regulations have been made they shall be promulgated by the secretary of the treasury and [enforced by the sanitary authorities of the States and municipalities when the State or municipal authorities will undertake to execute or enforce them; but if the State or municipal authorities shall fail or refuse to enforce said rules and regulations, or other rules or regulations made under the provisions of this act,] the President shall execute and enforce the same, and adopt such measures as in his judgment shall be necessary to prevent the introduction or spread of such diseases, and may detail or appoint officers for that purpose: [Provided, however, That nothing in this act contained shall be so construed as to authorize the secretary of the treasury to interfere with the State or municipal authorities in the regulation of local affairs so long as the introduction and spread of diseases are properly controlled and treated: Provided further, That there shall be no interference] *with the authorized medical officers of the United States charged with the duty of carrying out the authorized regulations,* [*who*] *shall be permitted to freely pass with such property and appliances as may be designated in such regulations, from State to State and from point to point in a State, and remain at such points as long as may be deemed necessary to properly control all infected places and treat such infection and prevent the spread of the same.*

["Whenever yellow fever, cholera, plague, or typhus fever has passed the quarantines of the United States, or in any manner any one of these diseases has gained entrance or has appeared within the limits of any State, Territory, or the District of Columbia, the quarantine regulations of the United States, prepared under the direction of the secretary of the treasury, shall be supreme and have precedence of State or municipal quarantine laws, rules, or regulations, and the President is authorized to enforce the same within the limits of any State, Territory, or the District of Columbia, and to control the movement of vessels, railway trains, vehicles, or persons within any State, Territory, or the District of Columbia, to prevent these diseases from spreading from one State, Territory, or the District of Columbia, to another State, Territory, or the District of Columbia, and to prevent unnecessary restrictions upon interstate commerce; and whenever, in accordance with the rules and regulations made as herein authorized to prohibit or permit the movement of vessels, railway trains, and vehicles, or transportation of persons, prohibitions or permits have been made or granted, any persons violating said prohibition or permit shall be deemed guilty of a misdemeanor, and shall be subject to a fine of not more than five hundred dollars, or imprisonment for not more than twelve months, or both, at the discretion of the court; and any violation of said prohibition or permit shall be reported to the United States district attorney for the district in which the offense has been committed, who shall thereupon institute necessary proceedings for the recovery of the penalty herein imposed."]

Provided, That nothing in this or any other Federal enactment shall be construed to deny or interfere with the power of States and municipalities to prescribe and enforce additional safeguards of the health of their communities: Provided further, That no law of the United States nor regulation adopted by the secretary of the treasury shall compel the admission of persons or property into any State, if forbidden by local quarantine, except for the purpose of passing through such State; nor shall Federal law or regulations interfere in any manner with movements of persons or property between different points in the same State, nor with any State or municipal quarantine provision for protection of life and health within its own limits; but the secretary of the treasury is authorized whenever so requested to aid such State or municipal authorities in enforcing its regulations and preventing the spread of disease.

That section six of said act shall be amended to read as follows:

"That on the arrival of an infected vessel at any port not provided with proper facilities for treatment of the same, the secretary of the treasury may remand said vessel, at its own expense, to the nearest national or other quarantine station, where accommodations and appliances are provided for the necessary disinfection and treatment of the vessel, passengers, and cargo; and after treatment of any infected vessel, or inspection of any vessel not infected at a national quarantine station, and after certificate shall have been given by the United States quarantine officer at said station that the vessel, cargo, and passengers are each and all free from infectious disease, or danger of conveying the same, said vessel shall be permitted to enter and admitted to entry at any port of the United States named within the certificate. But at any ports where sufficient quarantine provision has been made by State or local authorities, the secretary of the treasury may direct vessels bound for said ports to undergo quarantine at said State or local station."

That section eight of said act shall be amended to read as follows:

"That whenever the proper authorities of a State shall surrender to the United States the use of the buildings, grounds, and disinfecting apparatus at a State or municipal quarantine station, the secretary of the treasury shall be authorized to purchase them at a reasonable compensation, or pay a reasonable rental for their use, if in his opinion they are necessary to the United States; and the expense of said purchase or rental is made payable from the epidemic fund.

"That the surgeon-general of the Marine-Hospital Service shall, whenever he may deem it necessary, appoint in each port exposed to yellow fever, or where such disease has ever been introduced, a port sanitary inspector, who shall have been a practising physician for at least five years before his appointment at said port, and who shall be familiar with the symptoms of the disease hereinbefore mentioned, and skilled in its prevention and treatment.

"It shall be the duty of the port sanitary inspectors or quarantine physicians so appointed to make careful examination of the sanitary condition and surroundings of the ports where they reside and for which they are appointed, and to report each month, or oftener, if required so to do, the facts as to the sanitary condition of such ports to the surgeon-general of the Marine-Hospital Service, with such suggestions and recommendations as they may think necessary and proper. The said port sanitary inspectors shall perform such other duties in treating yellow fever or other infectious diseases as the surgeon-general of the Marine-Hospital Service shall direct; and they shall each be paid from the treasury, upon vouchers signed by the surgeon-general of the Marine-Hospital Service, the sum of fifteen hundred dollars annually, payable, in equal quarterly installments, on the first days of January, April, July, and November."

The Treatment of Influenza with Antistreptococcus Serum.—M. Currieu and M. Pellon communicated to the French Congress of Medicine at Montpellier (*Presse médicale,* April 20th) the case of a soldier attacked with a severe influenza, beginning suddenly with a violent rigor, followed by cerebro-meningeal troubles, bilious vomiting, headache, and facial contortions lasting five days. The type of fever deserved special notice. The temperature chart was characterized during the first ten days by great oscillations, the temperature at night rising to 104° F. or more, and falling in the morning to about 100°. Malarial infection as a complication was excluded by the utter failure of quinine. The expectoration showing numerous streptococci, four injections, of twenty cubic centimetres each, of Marmorek's antistreptococcus serum were given, and resulted, first, in lessening the range of oscillation of the temperature, and subsequently in causing its complete subsidence, although antipyrine and quinine had failed. The cure was complete.

The Monthly Cyclopædia of Practical Medicine and Universal Medical Journal.—This is the title of Dr. Charles E. de M. Sajous's new journal, published in conjunction with his *Annual and Analytical Cyclopædia of Practical Medicine.* Both publications are worthy of their predecessors' fame.

Hypnotic Suggestion in a Case of Spasm of the Pylorus.—M. Mongour and M. Lafarelle reported to the Anatomical and Physiological Society of Bordeaux on March 14th (*Gazette hebdomadaire de médecine et de chirurgie,* April 21st) the case of a girl, nineteen years of age, without neuropathic history, either hereditary or personal, who two years before, following an attack of typhoid fever of moderate severity, had suffered from flatulent dyspepsia, followed at times by vomiting. On November 2, 1897, she was attacked with influenza, in the course of which intractable vomiting, following from half an hour to an hour all ingestion of food, developed. There was violent pain in the pyloric region, following the course of the lesser curvature and terminating at the great *cul-de-sac.* All therapeutic measures failed, and a diagnosis was made of pyloric stenosis, in consequence of which the patient was referred to M. Dubourg for gastro-enterostomy. There was no excessive flow of gastric fluids. There was distention but not permanent dilatation of the stomach. The diagnosis of pyloric stenosis was generally agreed to, when in the course of a general clinical examination a generalized anæsthesia was observed, with concentric lessening of the field of vision. On March 11th, at the close of this examination, an attempt to throw the patient into a hypnotic sleep was successfully resorted to, and a suggestion of cure was made. In the course of the day she succeeded in keeping down all the liquids taken. Two more suggestion treatments were employed at intervals of some days, with the result that the patient, who was shown, was absolutely cured.

The Favorable Influence of Temperature upon Antidiphtheritic Serum in regard to Accidents after its Use.—At the international congress in Madrid, Dr. Spronek, of Utrecht (*Gazette hebdomadaire de médecine et de chirurgie,* April 21st), reported the results of his observations, extending from 1895. In 1895–'96, out of 1,365 patients treated with unheated serum, 208, or 15.2 per cent., suffered from post-injection accidents. In 1897, however, of 251 patients injected with the warmed serum, accidents were manifested in only twelve, or in 4.7 per cent. The method of preparing the serum is as follows: It is collected under conditions of as perfect asepsis as possible, and without the addition of any antiseptic, and is put into small flasks of the capacity of ten cubic centimetres, closed with a cork and a capsule of caoutchouc. These flasks are kept for twenty minutes at a temperature of between 138° F. and 139° F. Dr. Spronek asserts that the heated serum is in no way inferior to that not so treated, and records that at the Wilhelmina-Gasthuis Hospital in Haarlem the mortality was only 13.1 per cent. in 1897, against 18.5 per cent. in 1895–'96.

Training the Sight.—Mr. R. Brudenell Carter, F. R. C. S., in a lecture before the London Society of Arts (*Medical Times,* May), directs attention to the fact that acuteness of vision may be increased by training. He suggests that the average acuter vision of country over town children is due to the fact that the latter see chiefly large objects and under large visual angles, while the former are habitually attending to smaller and more distant objects, seen at smaller angles. He suggests, therefore, that school teachers should be instructed to test the vision of new pupils and record the same in a register, informing the parents of any defects observed.

The Diagnosis of Malarial and Quinine Amaurosis.—Dr. Juan Santos Fernandez, of Havana, in an article on this subject (*Journal of Eye, Ear, and Throat Diseases* for April), says that, as a matter of fact, the diagnosis between quinine and malarial amblyopia can only be made by an examination of the fundus of the eye. It is by this method that we always find either retinal alterations like those observed in patients suffering from malarial disease, or simply ischæmic troubles, as in cases of quinine intoxication. . . .

The diagnosis between these affections is much easier made when the patient is seen in the beginning of the ocular complication. It is very rare that amaurosis due to malaria shows a tendency to remain and becomes permanent, while quinine amblyopia, even when it is not permanent, persists for a considerable time. It is to quinine that we attribute ischæmia of the disc. This ischæmia constitutes the true pathognomonic sign of cinchonic intoxication. The essential characteristic is discoloration of the disc, which is generally only a more or less pronounced pallor, but which may increase consecutively and result in a whitening as decided as atrophy, when it is not always easy under such conditions to make the diagnosis. In these doubtful instances, however, it is necessary to depend not only on the examination of the disc; we should very minutely explore the retina and inquire particularly into the patient's antecedents. For example, if nerve atrophy is accompanied by marked contraction of the retinal vessels, and the ocular trouble has immediately followed the malarial manifestations which called for necessary energetic quinine medication, we can affirm that the patient is suffering from quinine amaurosis.

Massage as an Occupation for the Blind.—Dr. A. G. Bennett, in the *Philadelphia Medical Journal* for March 5th (*Journal of Eye, Ear, and Throat Diseases* for April), makes the suggestion that the blind, of whom the author estimates there are approximately fifty-six thousand in the United States, should be instructed in massage. In this occupation a blind person can become as skilled as one who can see, and it would open up to the blind a field in which many of them could make an honest living. Certain physical and moral requisites would be essential and a course of careful and thorough training to fit eligible applicants for such a pursuit.

Specialists and Practitioners.—The *Journal of Eye, Ear, and Throat Diseases* for April quotes from the *Archives internationales de laryngologie, d'otologie et de rhinologie* the following regulations that have been adopted by the Medical Society of the Ninth District of Vienna: 1. The specialist is a physician who renounces the exercise of every other branch, with the exception of a very limited portion. 2. The specialist should not undertake any treatment without coming to an understanding with the ordinary physician of the family. 3. The ordinary physician should be informed of the diagnosis and his advice taken upon important interventions. 4. It is impossible for the ordinary physician to direct the treatment to be followed; the specialist should let him take part according to his ability. 5. The patient should not be referred by the specialist to a third physician, except with the assent of the ordinary physician.

A Novel Explanation of Medical Overcrowding.—M. Rouxel, in a dissertation in the *Journal des économistes* on the causes of overcrowding in the medical profession (*Journal de médecine,* April 24th), advances a new theory—viz., that it is the legal protection granted to the medical profession which causes the plethora of students and leads to overcrowding.

Dryness of the Eye.—Dr. Nesnamoff (*Echo médical du Nord,* December 25th; *Journal of Eye, Ear, and Throat Diseases,* April) recommends the irritation of the fifth nerve in the nose by means of inspirations of ammonia as a means of relieving xerosis.

Original Communications.

THE CARTWRIGHT LECTURES
OF THE
COLLEGE OF PHYSICIANS AND SURGEONS.

THE SURGERY OF THE STOMACH.

LECTURE II.

GASTRO-ENTEROSTOMY, PYLORECTOMY, PYLOROPLASTY, GASTRORRHAPHY, OR GASTROPLICATION, GASTROPEXY, GASTROPLASTY, AND GASTRO-ANASTOMOSIS, OR GASTRO-GASTROSTOMY.*

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GASTRO-ENTEROSTOMY.—The indications for gastro-enterostomy are, (1) malignant stricture of the pylorus; (2) non-malignant stricture; (3) ulcer of the stomach. The object of the operation is to empty the stomach as quickly as possible and in the case of ulcer to put it at rest.

I am not at all sure but that in the future a fourth indication may be accepted—namely, obstinate digestive troubles which have not yielded to purely medical means. The recent low mortality of Carle and Fantino after gastro-enterostomy † of about four per cent. is so encouraging that I believe such a surgical interference in suitable cases may be proper. I venture to make this suggestion with some diffidence, but the results of the operation are so satisfactory that it is worthy the consideration of physicians. Just after I had written this I found that Hartmann ‡ had made the same suggestion saying, "it may be followed by excellent results in the therapeutics of grave dyspepsias where all medical means have failed," and Routier, in the discussion on Hartmann's paper, reported a case in which he had actually done the operation with success.

The results of gastro-enterostomy in non-malignant cases are extremely favorable. The mortality is low, the hyperchlorhydria disappears, the return of the normal function of the stomach is not seldom almost complete, and life is prolonged indefinitely, the patients not being aware of any disturbance in their digestive organs.

Even in malignant disease, life is also prolonged in a few cases beyond two years, though, of course, in the majority of cases, death is to be expected within a few weeks or months. It is not, however, a question in such cases *how long* the patient lives, but, as in gastrostomy for cancer of the œsophagus, *how* he lives. Instead of being tormented with incessant vomiting of the foulest character and gradual failure from the constant pain and in the utmost discomfort, the vomiting ceases, the pain is greatly diminished, or, in many cases, entirely disappears, and such patients live for weeks, or even months, and occasionally a year or two in relative comfort and happiness. In one of my own cases, in which the patient lived for nineteen months after the operation for pyloric cancer, he was able to resume the ordinary activities of life and was in almost perfect comfort until nearly the end of his life.

The operation was first done by Wölfler in 1881,* in a case in which pylorectomy could not be done. The anastomosis between the bowel and the stomach was made on the anterior wall of the stomach (Fig. 27).

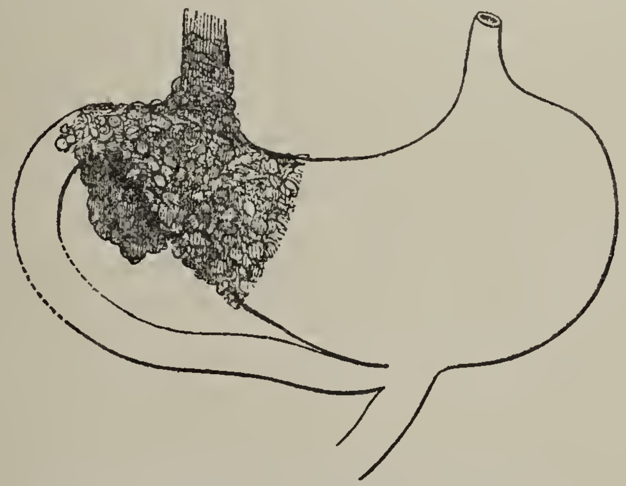

FIG 27.—Wölfler's method of gastro-enterostomy.

How rapidly the operation has found favor with the profession may be seen in the papers of Haberkant † and Chlumskij.‡ Haberkant collected 298 cases from 1881 to 1896, and Chlumskij in 1898 enlarged the list to 550. The operation is another illustration of the progressive improvement in technique, selection of cases, and personal skill, as is shown in the *résumé* which Chlumskij has given of the mortality resulting from this large series of cases. From 1881 to 1885 thirty-five cases were operated on with a mortality of 65.71 per cent., a mortality which might well discourage us were it not for the example we have had in so many new operations of such improvement as would justify continued operations. My own cases are seven in number with four deaths, a mortality of 57.1 per cent. From 1886 to 1890, 114 cases were operated on and the mortality fell to 46.47 per cent. From 1891 to 1896, 401 cases were operated on and the mortality had fallen to 33.91 per cent., about one half the mortality of ten years ago!

Mikulicz himself had operated on seventy-four patients up to June, 1897, of whom twenty-four died, a mortality of 32.5 per cent., and two of his patients lived for over two years. Further than that, in twenty-seven cases of non-malignant stricture, Carle reports but two deaths, a mortality of only 7.4 per cent., but as one of them was from hæmorrhage from an ulcer, and should not be considered in reckoning the mortality of the operation itself, it leaves one death in twenty-six cases, or only a little over four per cent. The last twenty-three consecutive patients of the twenty-six all recovered.

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* I am indebted to Chlumskij and Doyen for many of the illustrations in this lecture, and to Messrs. Lea Brothers and Co., Dr. George B. Shattuck, and Mr. W. B. Saunders, as well as the authors, for permission to use some illustrations from Dennis's *System of Surgery*, the *Boston Medical and Surgical Journal*, and the *Year-Book of Medicine and Surgery*.

† *Archiv für klinische Chirurgie*, lvi, 1898, p. 1.

‡ *Sémaine médicale*, January 5, 1898, p. 7.

* *Centralblatt für Chirurgie*, 1881, No. 45.

† *Archiv für klinische Chirurgie*, 1896, li, p. 861.

‡ *Zeitschrift für klinische Chirurgie*, 1898, xx, p. 231.

In some of the earlier cases, the first presenting coil of intestine was anastomosed with the stomach, but it was quickly found that this was a most injudicious procedure, since in several cases the anastomosis was done but a little way above the ileo-cæcal valve. The exclusion of so much of the intestinal tract so diminished digestion and absorption that the patients quickly died of inanition. The first improvement, therefore, was in selecting a definite point at the upper part of the jejunum. In order to make sure of doing this, the method of Socin has been followed with great advantage. On raising the transverse colon and stretching the mesocolon, when the fingers are passed to its base the first coil of intestine to the left is the jejunum. Nothnagel proposed to seize the first coil of intestine and place some salt upon it. Based upon experiments upon animals, it was thought that the wave of peristalsis always would pass downward, which would enable us at once to differentiate the distal and the proximal portions of the bowel from each other and so easily to find the jejunum; but this was soon discovered to be unreliable in man. I have found that a much better test is to seize the presenting portion of the intestine, give the point seized to an assistant and then strip the intestine either way. If we are going downward toward the ileum, the wall of the bowel gets distinctly thinner, but as we pass upward toward the jejunum, it grows appreciably thicker, due to the thicker mucous membrane to accommodate the glands. This, I have always found to be a reliable method of finding the upper end of the bowel.

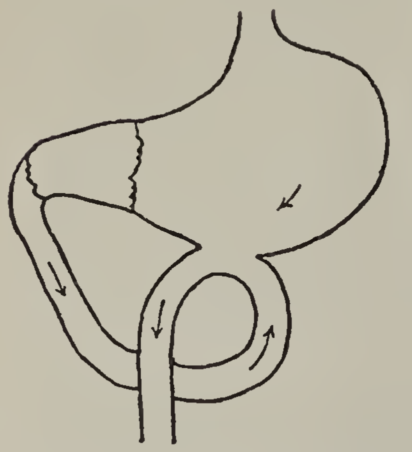

FIG. 28.—The Wölfler-Lücke method of gastro-enterostomy, the bowel being reversed to bring the peristalsis of stomach and bowel in the same direction.

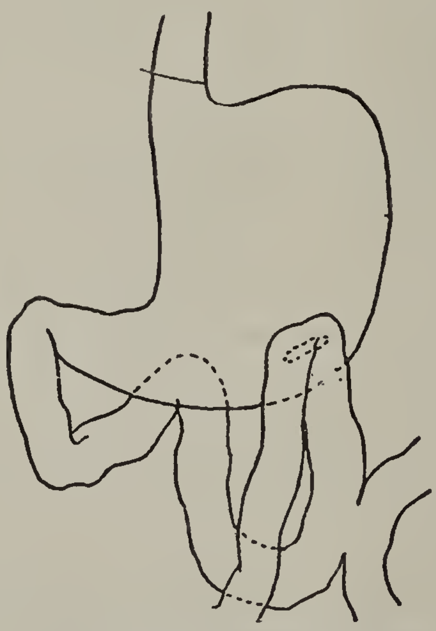

FIG. 29.—Showing parallel position assumed by the two parts of the bowel and the spur developed between them.

A second error was that in the earlier operations the bowel was united to the stomach without regard to the direction of the peristalsis. Wölfler and Lücke soon recognized this and proposed to reverse the coil of bowel so that the direction of the peristalsis from the cardia toward the pylorus, and in the bowel from the artificial opening downward, should be in the same direction—namely, from left to right (Fig. 28). But when the anastomosis was established, the bowel, when replaced, did not retain the curve given to it in the illustrated drawings. The two limbs of the intestine became parallel with each other and developed a spur (Fig. 29) which divides the opening from the stomach into the intestine in such a manner that a vicious circle was soon established. The contents of the stomach, instead of passing into the distal limb of the bowel, regurgitated partly or wholly into the proximal limb, and, finding no outlet there, emptied back into the stomach along with the bile and pancreatic fluid. This resulted in distention of the proximal portion of the bowel to such an extent that sometimes it became almost as large as the stomach itself (Fig. 30). Vomiting both of bile and pancreatic fluid and the food which was retained in the stomach in this condition is a frequent and often fatal result. In addition to this, as the bowel was drawn up in front of the colon the pressure of the jejunum on the transverse colon may also be a cause of dangerous obstruction. This latter danger was later averted by the Billroth-Brenner-Bramann method of an anterior gastro-enterostomy through an opening in the mesocolon (*Wiener klinische Wochenschrift,* 1892, Nos. 2 and 26, and *Archiv für klinische Chirurgie,* xlv, 1893).

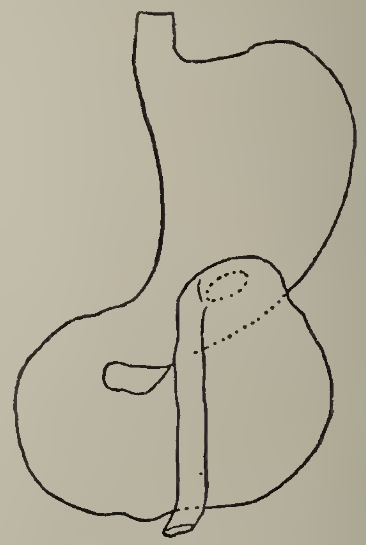

FIG. 30.—Showing the dilatation of the proximal portion of the bowel.

These difficulties soon led to variations in method. Courvoisier * first suggested a posterior gastro-enterostomy by dividing the mesocolon parallel with the axis of the colon. But it was soon found that this sometimes resulted in gangrene of the colon by destruction of its blood supply. In 1885 von Hacker * made a further improvement by proposing that the anastomosis should be on the posterior wall of the stomach by dividing the mesocolon at a right angle to the axis of the bowel and so avoiding the danger of gangrene. To avoid the danger of a coil of intestine slipping through this opening, its edges are sutured to the wall of the stomach. (Fig. 31.) As the patient is of necessity confined to bed in the recumbent posture, it is evident that with an anterior opening the contents of the stomach can not readily escape, but if the anastomosis be made on the posterior wall of the stomach this escape was greatly facilitated.

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* *Centralblatt für Chirurgie,* 1883, x, p. 794

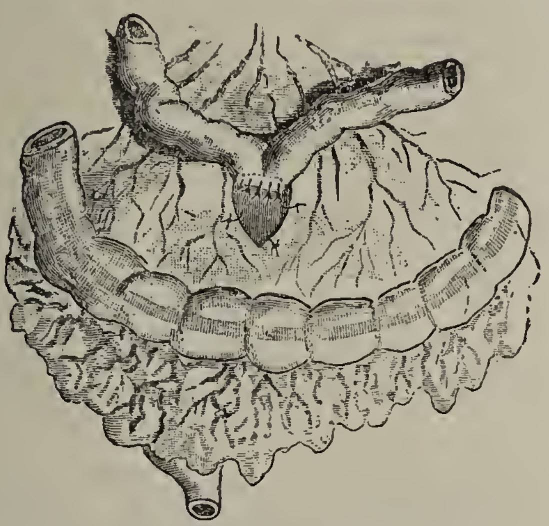

FIG. 31.—Von Hacker's posterior gastro-anastomosis through an opening in the mesocolon. (Esmarch and Kowalzig.)

Doyen † has well said that "the one phenomenon which dominates the pathology of the stomach is the evacuation of its contents," an opinion which is re-enforced by Carle, and by Mikulicz, and is supported both by pathological and clinical facts, from which there seems to be no escape. Whether the escape of food is hindered by a neoplasm of the pylorus, by insufficiency of the anastomotic opening into the intestine, or by mere atony of the muscular wall, this is the one principal factor which must be eliminated. It is precisely similar to what we find in other organs, as, for instance, in the bladder, where retention of the contents by an enlarged prostate or by a stricture of the urethra, inevitably brings functional, followed by organic, changes. The same is seen also in the gall bladder, the kidney, and the uterus. Our chief efforts, therefore, must be toward securing a timely and complete evacuation of the stomach. Whenever after a meal in the evening the stomach is not found empty in the morning, or six or seven hours after any meal, some pathological condition resulting in food-retention exists which must be relieved. This gastro-enterostomy, especially through the posterior wall, accomplishes. Of course there are cases which are not suitable to each operation; for instance, if the posterior wall of the stomach is involved, or if there are extensive adhesions posteriorly, we are driven to do an anterior gastro-enterostomy. If, on the other hand, the anterior wall is involved, we are equally driven to a posterior operation.

Not only, however, is von Hacker's operation better in its functional results from the speedier and better evacuation of the contents of the stomach, but its mortality is somewhat less than that of Wölfler. Chlumskij's table gave a general mortality in the 231 cases operated on by Wölfler's method of 38.09 per cent.; of 152 cases by von Hacker's method a mortality of 35.52 per cent. None of the other operations, save that of Doyen (11.54 per cent. in twenty-six cases), compares with these two. The introduction of Murphy's button also has had an important influence in favor of the operation of von Hacker, as it facilitates the immediate evacuation of the contents of the stomach. While the button has in a number of cases fallen into the stomach rather than into the bowel, these are chiefly cases in which the anterior operation has been done, in which gravity would favor its escape into the stomach. In von Hacker's operation gravity facilitates its escape into the bowel. The most ardent advocates of its use are Carle and Fantino, who report that it has been used by the former in sixty cases and practically without any trouble. In the last thirty-seven operations the size No. 3 (twenty-seven millimetres in diameter) was used and without the slightest trouble. Czerny * also has performed thirty-five gastro-enterostomies with Murphy's button with twelve deaths, a mortality of 34.28 per cent., and Stendel † reports still later the result in Czerny's clinic in sixty-three cases of a lowering of the mortality of twelve per cent. as a result of employing the button. Weir ‡ has proposed to make a wider flange on the intestinal half, which may prove of value in preventing the falling of the button into the stomach.

The extraordinary proposition of Hagapoff,# who has devised a new anastomosis button, and, in order to prevent its retention, especially in the stomach, attaches a thread to it for the purpose of withdrawing the button through the mouth, need only be mentioned to be condemned. To say nothing of the uncertainty of the time when the button becomes loose and the possibility of tearing apart the stomach and the bowel prematurely,

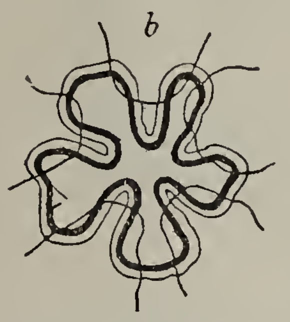

FIG. 32.—Von Hacker's method of narrowing the lumen of the proximal limb of the bowel.

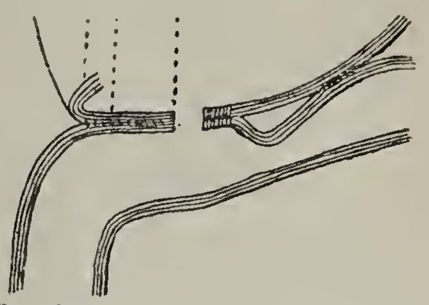

FIG. 33.—Doyen's method of narrowing the proximal limb of the bowel (axial view).

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* *Archiv für klinische Chirurgie*, xxxii, p. 616.

† *Archives provinciales de chirurgie*, iii, 1894, p. 673.

* *Berliner klinische Wochenschrift*, 1897, No. 34.

† *Philadelphia Medical Journal*, May 7, 1898.

‡ *Medical Record*, April 16, 1898.

Bulletins et mémoires de la Société de chirurgie, xxii, p. 532.

the button, as Chaput points out, is too large to be drawn through the cardiac end of the stomach.

Various attempts have been made to prevent the reflux of the stomach contents into the proximal limb of the bowel. Thus, von Hacker* has proposed to pucker the proximal portion of the bowel by means of sutures passed transversely through its lumen (Fig. 32). Doyen† has proposed a somewhat similar method of puckering the bowel (Figs. 33 and 34), combined with narrowing the pylorus, a method which is complicated and has not commended itself to most surgeons. Chaput‡ makes a valve in the form of a letter H, both in the stomach and bowel (Fig. 35). Kocher# makes a semilunar incision in both the stomach and the bowel, and places the bowel vertically, with the proximal limb behind the distal, so that in the recumbent posture compression of the proximal portion as well as the valve will prevent regurgitation (Fig. 36). Lauenstein|| proposed to make a second anastomosis in the bowel farther down (Fig. 37), and Jaboulay△ (Fig. 38), Braun◊ (Fig. 39), and Wölfler (Fig. 40) proposed somewhat similar methods. None of these, however, accomplishes both safely and effectively the object. They prolong the operation in greatly debilitated patients, and increase the danger of infection and of the giving way of the sutures. The ideal method has yet to be found.

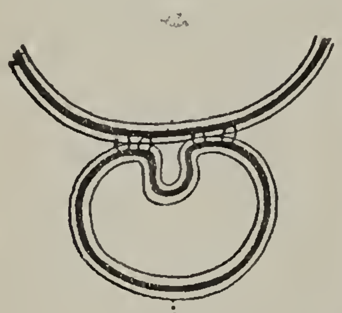

FIG. 34.—Doyen's method of narrowing the proximal limb of the bowel (cross section).

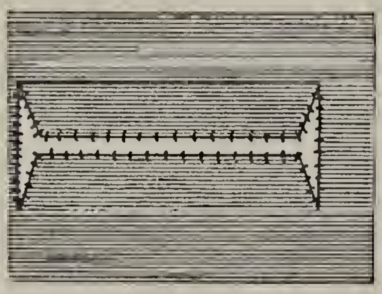

FIG. 35.—Chaput's valvular incision.

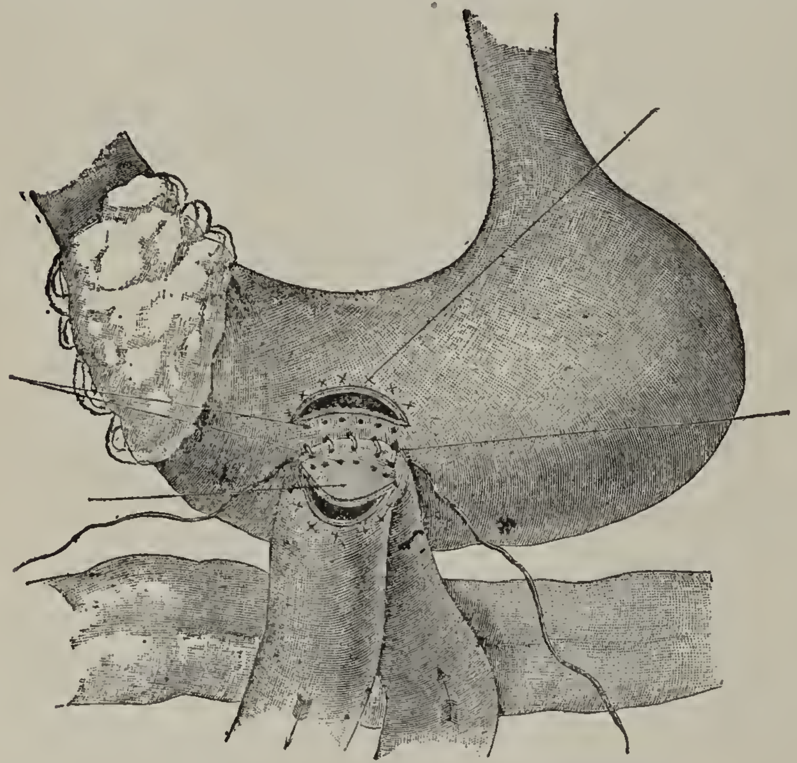

FIG. 36.—Kocher's method of gastro-enterostomy.

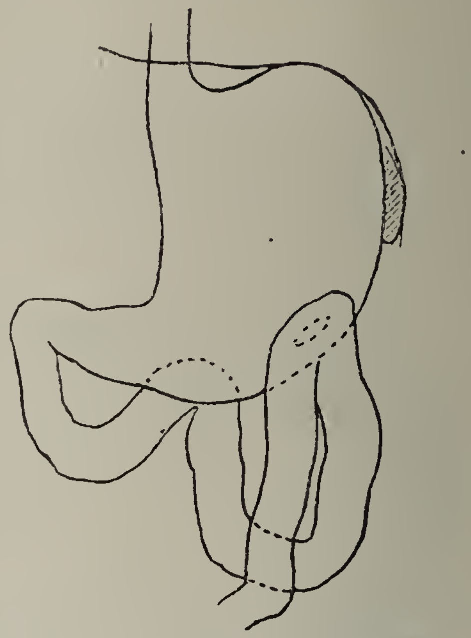

FIG. 37.—Lauenstein's method of combined gastro-enterostomy and entero-enterostomy.

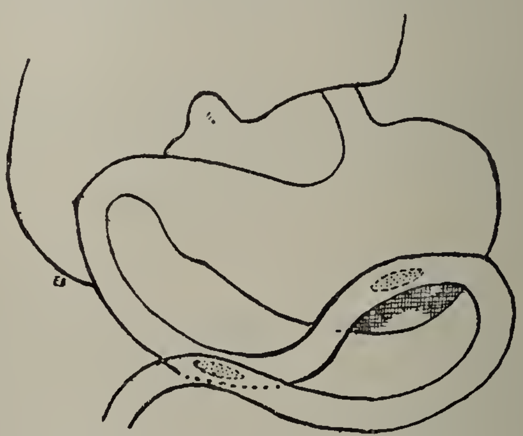

FIG. 38.—Jaboulay's method of combined gastro-enterostomy and entero-enterostomy.

In another direction also attempts have been made to improve the operation by avoiding infection of the peritonæum by uniting the stomach and bowel before

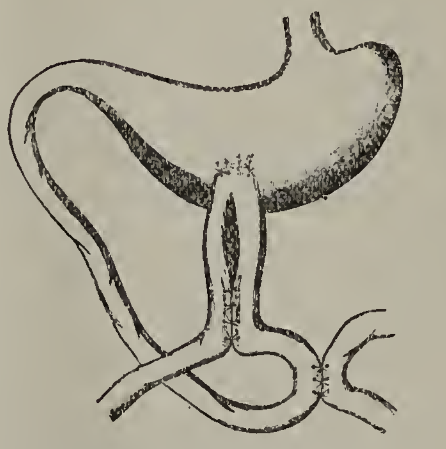

FIG. 39.—Braun's method of combined gastro-enterostomy and entero-enterostomy.

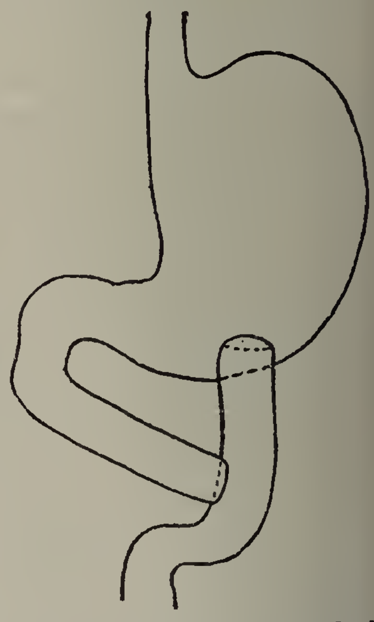

FIG. 40.—Wölfler's later method of gastro-enterostomy and entero-enterostomy.

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* *Chirurgische Beiträge des Erzherzogin Sophie. Hospitals*, 1892, 46.

† *Archives provinciales de chirurgie*, iii, 1894, p. 673.

‡ *Presse médicale*, July 14, 1894.

# *Chirurgische Operationslehre*, 1894, p. 140.

|| *Centralblatt für Chirurgie*, 1891, No. 40.

△ *Archives provinciales de chirurgie*, 1892, i, p. 1.

◊ *Archiv für klinische Chirurgie*, xlv, 1892, p. 361.

making any opening into either. Postnikow * incises only the serous and muscular coat, both of the bowel and of the stomach, draws out each mucous membrane through the opening in the other two coats and ties it with a ligature, in the expectation that in a few days the part constricted by the sutures will slough and establish the opening (Fig. 41).

Bastianelli † exposes the mucous membrane in the same way, and cauterizes it with the Paquelin cautery hoping for the same result. But in Bastianelli's own case, in which the patient died eight days after the operation, there was no fistula, and Kadjan ‡ has reported a case in which three months and a half after a gastro-enterostomy by this method, Wölfler's method was adopted at a second operation, as a similar failure in establishing the fistula was found.

Souligoux # has proposed to crush the wall of the stomach and bowel by means of forceps and then cauterize it with caustic potash, after which the sutures are applied. This seems to me a most unsurgical procedure.

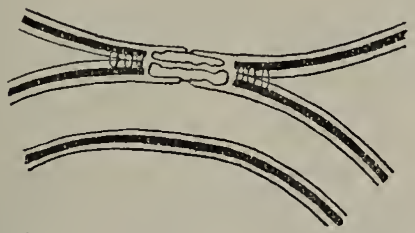

Fig. 41.—Postnikow's method of gastro-enterostomy.

As between anterior and posterior gastro-enterostomy, the advantages in benign cases are relatively slight, since the muscular wall of the stomach in such cases is little if any impaired in its ability to empty the organ, and may be even stronger than the normal. But in cases of malignant stricture of the pylorus, the stomach is often reduced to little more than a fibrous receptacle for food and can not empty itself unless the opening is in the most favorable position. In these cases the posterior gastro-enterostomy of von Hacker is evidently the more desirable. In non-malignant cases, however, the choice often has to be made between pyloroplasty and gastro-enterostomy, and in view of the greater ease and certainty of the escape of the gastric contents through the opening of a gastro-enterostomy, of the restoration of the normal function of the stomach,|| it would seem that it should be the operation of choice, especially as the mortality of the two operations is now in such cases very nearly alike. In Carle's cases, the mortality after gastro-enterostomy was 7.4 per cent.; after pyloroplasty, seven per cent. Czerny △ has abandoned pyloroplasty since 1896. Morison, ◊ however, has reported eleven cases of pyloroplasty without a single death, and Mikulicz still favors its performance. His mortality is only 13.2 per cent.*

Pylorectomy.—Practically the only lesion for which pylorectomy is done is cancer of the pylorus. It has been performed on account of supposed cancer, which has proved on examination to be simply the thickening due to ulcer or to hypertrophy of the pylorus, which has been mistaken for cancer. Morison † was unable to make a correct diagnosis in one case until after excision and laying the specimen entirely open. Soltau Fenwick (*Edinburgh Medical Journal*, April, 1898, p. 402) narrates a similar case which he had observed of tumor in the left hypochondrium existing for a number of months, with vomiting and hæmatemesis, in which, unfortunately, no exploratory cœliotomy was done. At the necropsy the tumor was found to consist of the stomach contracted to the size of an orange as a result of a simple ulcer of horseshoe shape, embracing two thirds of the circumference of the cardiac orifice. Probably a gastro-enterostomy in this case, if done sufficiently early, might have remedied the trouble. Numerous other similar cases of erroneous diagnosis could be cited.

The first pylorectomy on record was done by Péan in 1879,‡ and Rydygier,# in 1880, performed the second. Billroth, in 1881,|| in ignorance of these two former operations, did the first successful operation. Since then it has been performed by a large number of surgeons.

The mortality attending the operation has been so great that, as compared with gastro-enterostomy, it has lost favor with most surgeons. But, says Wölfler emphatically,△ "This conclusion can not and must not stand," and he re-enforces his opinion by the following facts: The mortality in the cases with extensive adhesions ◊ is 72.7 per cent., but in the cases without adhesions is only 27.2 per cent. In the practice of fifteen well-known operators the mortality from 1888 to 1896, 173 operations, had fallen to 31.2 per cent., while four individual operators, Kocher, Krönlein, Czerny, and Mikulicz, in eighty-four cases had achieved seventy-five per cent. of success.

On theoretical grounds it is certainly the better operation, since gastro-enterostomy is only palliative. But the obstacles to pylorectomy are very great; the chief one of these is the difficulty in making a sufficiently early diagnosis. Few surgeons have ventured to operate thus far in the absence of any palpable tumor, and by the time that a tumor is perceptible it is usually too late even though there be no adhesions. Our operations heretofore have been done so late that adhesions or

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* *Centralblatt für Chirurgie*, 1892, No. 49.

† *Riforma medica*, August, 1893, No. 193.

‡ *Chlumskij*, p. 494.

# *Semaine médicale*, 1896, p. 283.

|| Siegel. *Mittheil. aus d. Grenzgebiet. d. Med. u. Chir.*, Bd. i, Heft 3.

△ *Philadelphia Medical Journal*, May 7, 1898.

◊ *Lancet*, 1898, i, p. 561.

* *Berliner klinische Wochenschrift*, 1897, No. 223.

† *Loc. cit.*

‡ *Gazette des hôpitaux*, 1879, No. 60.

# *Deutsche Zeitschrift für Chirurgie*, xiv, p. 252.

|| *Wiener medicinische Wochenschrift*, 1881, p. 275.

△ *Verhandlungen der deutschen Gesellschaft für Chirurgie*, xxv, 1896, p. 114.

◊ Haberkant. *Archiv für klinische Chirurgie*, li, p. 484.

metastasis or both have been so extensive as to prevent a pylorectomy. Yet in 542 cases of carcinoma of the pylorus, as shown by Gussenbauer and Winiwater,* 172 were without adhesions and 223 without metastasis.

Hemmeter,† perhaps, as well as any other author, has stated the reasons for the operation, and coming from a physician rather than a surgeon, they carry additional weight. He advises operation: 1. When there is dilatation of the stomach; 2. When cachexia exists; 3. In the absence of HCl; 4. When there is an excess of lactic acid; 5. When the Oppler bacillus is present. To these symptoms we may properly add: 6. The age, which is usually past forty; 7. When hæmatemesis is present, which is probable in about forty per cent. of the cases; 8. Possibly the examination of the blood may aid us, as the number of red corpuscles and the hæmoglobin are said to be diminished, and the increase in white corpuscles, which normally occurs after a full meal, is absent in gastric cancer. "Stenotic symptoms accompanied with these signs are indications for operation even in the absence of a palpable tumor. If, on these grounds, an exploratory cœliotomy, which is not of itself a dangerous operation with the modern surgical precautions, is done, I believe that we shall have a very much better result from pylorectomy than we have heretofore" (Hemmeter).

While it is true that the absence of free HCl is not by itself diagnostic of cancer, yet it is undoubtedly absent much more frequently in the cases seen by the surgeon than in the promiscuous cases of gastric disease seen by the physician, and its absence should always arouse a suspicion of cancer. Fenwick ‡ states that it is absent in about eighty-eight per cent. of the cases. "It may therefore be accepted as a practical rule (says Fenwick) that the occurrence of chronic gastritis without definite cause in a person over forty should always be regarded with suspicion; if at the end of a month the complaint has not yielded to careful treatment, or if the patient has continued to lose flesh, and suffers from pain or vomiting after the use of fresh milk, while the stomach contains food in the early morning without free hydrochloric acid, the presence of malignant disease may be regarded as a certainty, even in the absence of a tumor." The evident corollary to this statement is that in such cases an exploratory cœliotomy should immediately be done.

Whether a pylorectomy shall then be done or not depends on three factors: 1. On the extent of the tumor; 2. And of more weight than the last, on the extent of the adhesions; 3. And perhaps equally important, on the extent of the involvement of the glands. With our present views as to the thoroughness with which extirpation, not only of the primary tumor, but of all infected glands in any part of the body should be done, to remove a pylorus and to leave a number of infected glands behind is unsurgical. The patient runs a high risk with no corresponding benefit. Mikulicz has pointed out * that these glands are in four series: Those of the lesser curvature, which cluster especially around the cardia and the œsophagus; 2. Those of the greater curvature, clustering especially around the pylorus; 3. Those between the stomach and the transverse colon; and 4. Those near the pancreas. For all cases of extensive glandular involvement or extensive adhesions I should unhesitatingly select the operation of gastro-enterostomy. But the debate last month in the German Surgical Society † shows clearly that the trend of surgical opinion is setting in favor of the more radical operation of pylorectomy. Hahn there reported twenty-eight cases with ten deaths, a mortality of 35.7 per cent.; Gussenbauer thirteen cases and four deaths, a mortality of 30.8 per cent.; and von Hacker nine cases with one death, a mortality of only 11.1 per cent.

The technic of pylorectomy presents far less variety of procedure than gastro-enterostomy. The operation should be preceded or accompanied in most cases by the injection of salt solution and, so far as it is possible to do it, should be conducted extraperitoneally. This is accomplished, as already indicated, by shutting off the abdominal cavity from the field of operation by iodoform gauze packing.

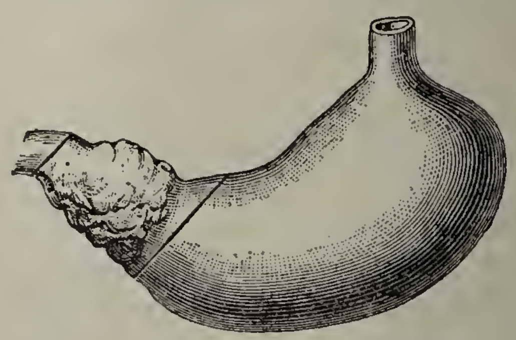

FIG. 42.—Billroth's method of pylorectomy.

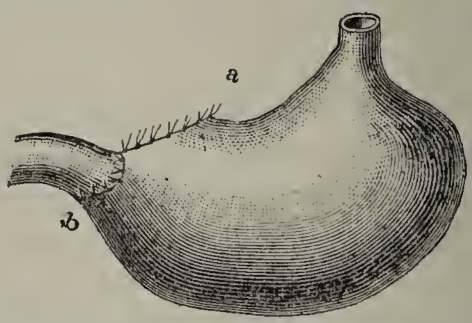

FIG. 43.—Billroth's method of uniting stomach and bowel after pylorectomy.

The various methods that have been employed are as follows:

1. Billroth's method; the tumor is resected and as the opening in the stomach is so much larger than that in the duodenum, the stomach wound is partially closed by suture until it reaches a size sufficient for an end-to-end anastomosis with the duodenum. This is best done at the lower rather than the upper end or the middle of

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[*] *Archiv für klinische Chirurgie*, xix, p. 376.

[†] *Diseases of the Stomach*, 1898.

[‡] *Edinburgh Medical Journal*, March, 1898.

[*] *Philadelphia Medical Journal*, May 7, 1898, and *Semaine médicale*, April 20, 1898.

[†] *Philadelphia Medical Journal*, May 7, 1898.

the gastric opening, since it facilitates the emptying of the contents of the stomach.

2. Kocher's method, which consists in closing both the stomach and the duodenum and then making a posterior end-to-end anastomosis by the insertion of the duodenum in the posterior wall of the stomach with or without Murphy's button. Czerny prefers to do first the posterior gastro-enterostomy with Murphy's button and then, after a resection of the tumor, to close both the stomach and the duodenum. He has thus operated in three cases with two recoveries (Fig. 44).

As to the duration of life obtained by pylorectomy, Wölfler cites three patients who lived over four years, four over five years, one over six years, and two over eight years. To these should be added one by Carle's cases, who lived over five years, one of Ekehorn's (*Hospitals-Tidende*, September, 1897, p. 885), who lived for three years and a half, and several reported in the debate of the German Surgical Society already alluded to, which sum up five living for two years or over, one each for three, four, five, and six years, and three for seven years or over. Certainly this is a much better showing as to length of life than after gastro-enterostomy. As our patients, however, usually come to us so late, it is undoubtedly the fact that at present in the majority of cases gastro-enterostomy will have to be done rather than pylorectomy. This is shown particularly in Czerny's last statement.* From 1881 to February, 1893, he did nineteen resections and twenty gastro-enterostomies, but from 1893 to 1897 only ten pylorectomies and seventy gastro-enterostomies, owing largely to the fact that a radical extirpation was impossible of accomplishment.

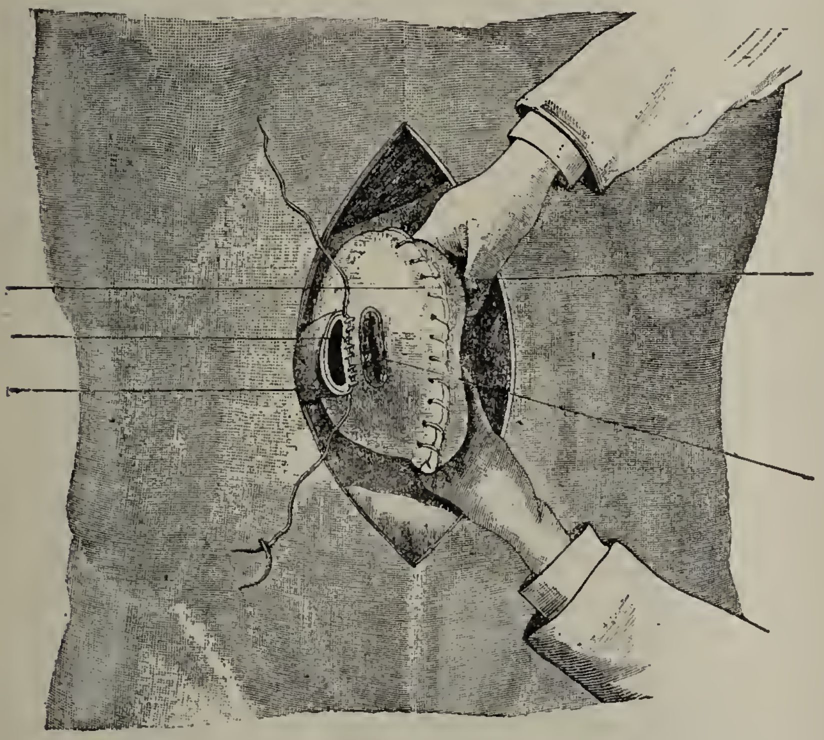

Fig. 44.—Kocher's method of pylorectomy and posterior gastro-enterostomy.

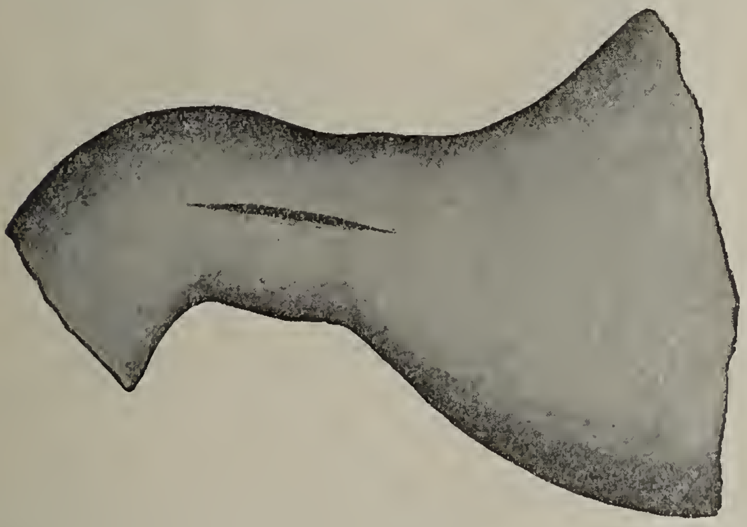

Fig. 45.—The Heineke-Mikulicz pyloroplasty (the longitudinal incision).

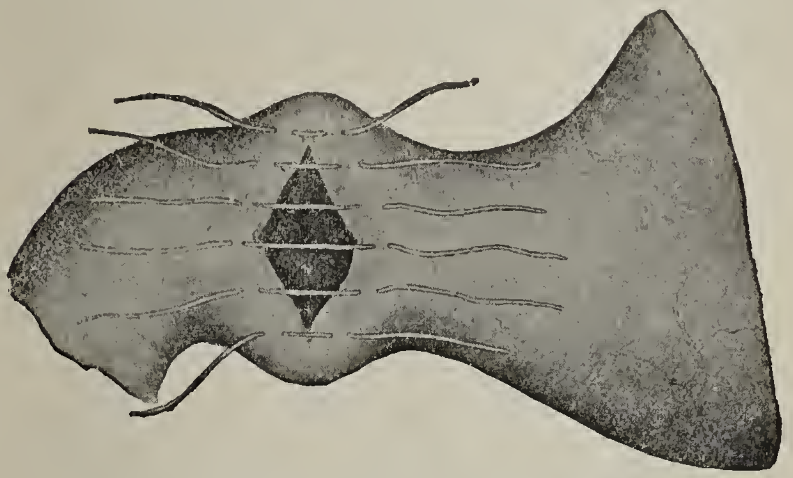

Fig. 46.—The Heineke-Mikulicz pyloroplasty. Incision stretched at a right angle to its axis and sutures inserted.

Pyloroplasty.—In 1886 Heineke † did the first operation of pyloroplasty, and early the next year, independently of any knowledge of the former operation, Mikulicz performed a similar operation.‡ The operation is therefore commonly known by their joint names. The indication for its performance is that of non-malignant stricture often due to ulcer. Herhold # has done it for a small myoma.

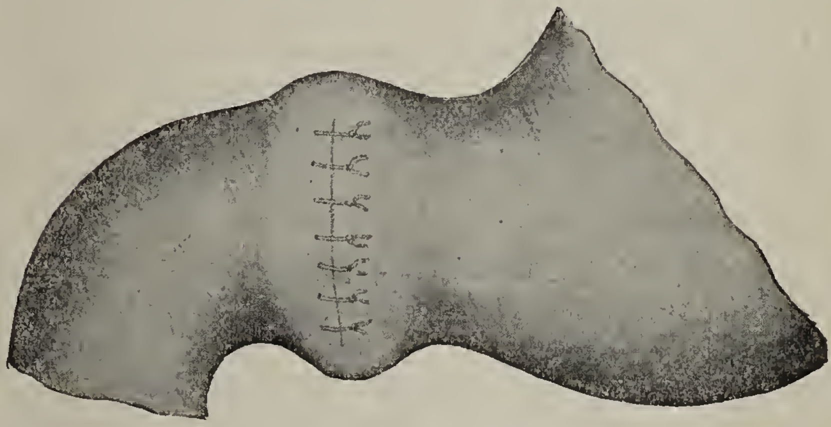

Fig. 47.—The Heineke-Mikulicz pyloroplasty. Sutures tied and lumen of pylorus widened.

The technics is of the simplest character. A longitudinal incision in the axis of the pylorus is stretched at its middle at a right angle to the incision so as to dilate the strictured pyloric opening, and the margins of the opening are sutured in this new position (Figs. 45, 46, and 47). Its success is a re-enforcement of the statement of Doyen that "the pylorus is the foe to be vanquished," since its stenosis produces retention of the gastric contents with all its annoying and ultimately fatal results. Its advantages especially over gastro-enterostomy are very clear, such as the absence of any reflux of bile and pancreatic fluid into the stomach, its lower mortality, and ultimately in many cases the restoration of the normal pyloric action and normal gastric secretion. It does not, however, give as free exit to the contents of the stomach in some cases as does gastro-enterostomy, especially in those cases in which there is primary atony and dilatation of the stomach.

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* *Berliner klinische Wochenschrift*, 1897, No. 34.

† Fronmüller. *Operation der Pylorusstenose*, Inaug. Dissert., Fürth, 1886.

‡ *Archiv für klinische Chirurgie*, 1888, xxxvii, 79.

# *Deutsche medicinische Wochenschrift*, 1898, No. 4.

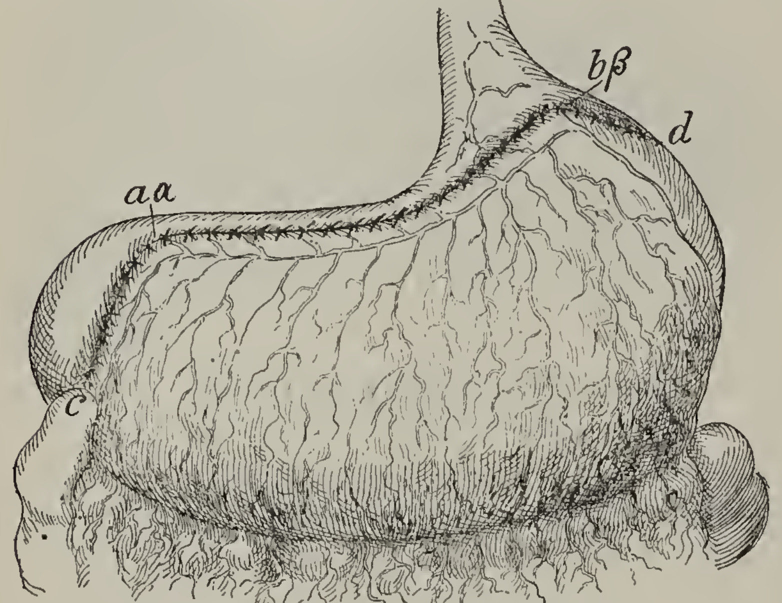

FIG. 48.—Bircher's method of gastroplication.

Dreidorff [*] in 1894 collected twenty-nine cases with six deaths, a mortality of 20.7 per cent., and Haberkant [†] in 1896 fifty-one cases with eleven deaths, a mortality of 21.6 per cent. Mikulicz [‡] since 1891 has had a mortality of 13.2 per cent. and Carle has operated on fourteen cases with only one death, a mortality of only seven per cent. Yet on the whole I believe it is losing favor with most surgeons.

Analogous in its object is another operation, that of Loreta, digital divulsion of the pylorus, or pylorodiosis, as it has been named by Greig Smith. Two methods are followed in this operation: first, after making an opening into the stomach the pylorus is dilated either instrumentally or preferably by the fingers, or secondly, the modification recommended by Hahn that the anterior gastric wall should be invaginated upon the finger and carried into the opening. Barton and Bull have especially made it known in this country.[#] Combining their two tables, twenty-eight cases give a mortality of 31.1 per cent. In view of this large mortality, and of the fact that occasionally a dilated pylorus recontracts, as in one case Loreta had to do a second operation for this very reason, it has fallen into disfavor as compared with the more radical yet less dangerous operation of pyloroplasty.

GASTRORRHAPHY OR GASTROPLICATION.—The latter term is the better one, though it has not been so commonly used as the former. Gastrorrhaphy, of course, applies to any case in which the stomach is sewed. It would be better, in my opinion, therefore, to restrict the term gastrorrhaphy to those cases in which, with or without excision, a limited portion of the wall of the stomach is sutured, and the term gastroplication to those cases in which a large fold of the stomach wall is made and sutured. The chief indication for this operation is dilatation of the stomach, though Bircher also mentions its use in threatened perforating ulcer. The dilatation follows either pyloric stenosis or atony of the muscular wall of the stomach. As cases of pyloric stenosis, if malignant, are best treated by pylorectomy or gastro-enterostomy, and, if non-malignant, are best treated by pyloroplasty, practically the indication for gastroplication is great dilatation of the stomach as a result of atony. Of course, simple atony and dilatation, if the stomach performs its function perfectly well, would be no indication for operation, but only those cases in which there is a failure of the gastric function as well as the dilatation of the stomach. The symptoms and diagnosis of gastric dilatation have been fully treated by Osler [*] and Pepper and Stengel.[†]

The first one who practised this operation was Bircher.[‡] In a later communication in the same journal,[#] Bircher reports ten cases in all with a single death. The abdomen is opened and the greater curva-

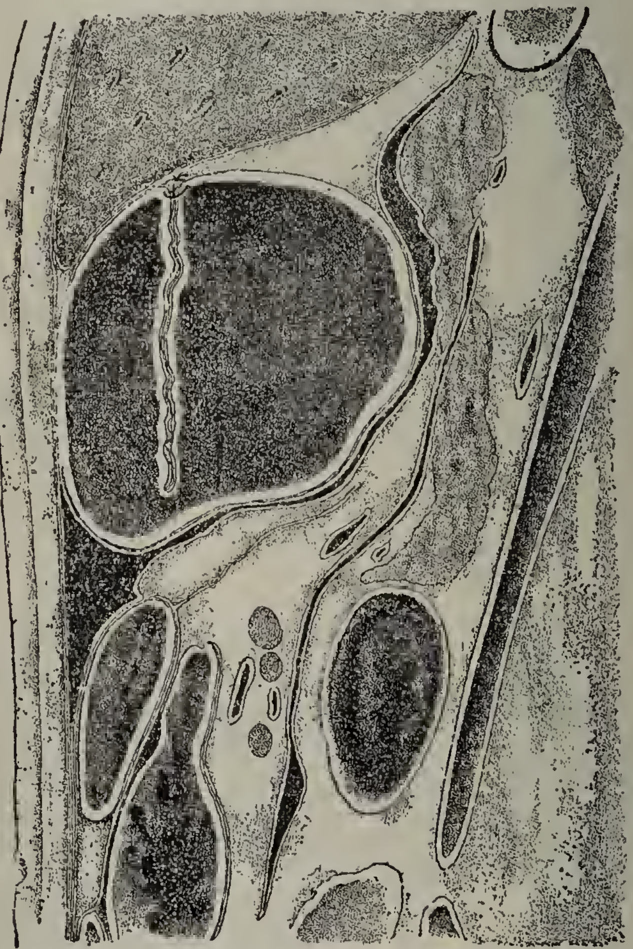

FIG. 49.—Bircher's gastroplication in cross section, showing the fold of the anterior wall of the stomach.

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[*] *Beiträge zur klinische Chirurgie*, xi, p. 333.

[†] *Archiv für klinische Chirurgie*, li, 1896, p. 532.

[‡] *Verhandlungen der deutschen Gesellschaft für Chirurgie*, 1897.

[#] *Medical Record*, May 25 and June 8, 1889.

[*] *Medical Journal*, February, 1894, p. 164.

[†] *American Journal of the Medical Sciences*, January, 1897, p. 34.

[‡] *Correspondenzblatt für schweizer Aerzte*, xxi, 1891, p. 713.

[#] 1894, p. 553.

ture of the stomach is lifted up to the lesser curvature, thus folding the anterior wall on itself (Figs. 48 and 49). The first patient Bircher operated upon, July 28, 1891, made an excellent recovery. The abdomen had to be opened again on October 19th, when a suspicious spot of hardness of the size of a walnut was excised and the stomach closed. He died on the second day in collapse. The post-mortem showed that the death was caused by extravasation of bile from compression of the hepatic duct. The stomach itself was in excellent condition and of normal size. It is of special interest, however, to note that the two serous surfaces of the anterior gastric wall, which had been placed in contact by the gastroplication, were only loosely united, and the fold would easily have become unfastened. Weir,[*] on March 9, 1892, without knowing until two days before the operation that Bircher had preceded him, did a similar operation, with the difference that he united the two layers of the wall by four successive rows of interrupted silk sutures, the final one uniting the greater curvature to the lesser. He also operated on a ventral hernia at the same time. The operation was an entire success, and in its technic is a decided improvement over Bircher's method. Brandt [†] performed the operation on both the anterior and posterior wall. Over two hundred sutures were used, making the operation a very long one, but it was followed by recovery. Stockton [‡] also reports a case. Bennett,[#] without being aware of the prior operations, operated successfully by a method almost identical with that of Weir, and the patient made an excellent recovery, the size of the stomach being apparently permanently reduced. Bennett used but a single layer of sutures, and did not reduce the cavity of the stomach to such an extent as in the other cases. Moynihan [||] attained a similar success by a series of purse-string sutures.

Of the fifteen foregoing cases all the patients recovered but one. The question, however, is not so much of operative recovery, which might practically be taken for granted, as it is of functional recovery. The almost unanimous conclusion of those who have done the operation is in its favor. Wölfler,[△] however, thinks that it has no future, as he fears that the same conditions which produce the primary dilatation will be followed later by its return. The operation is, as yet, of course, in its infancy, but so far as we can judge (and one patient of Bircher's had remained well for two years and a half) seems to have given relief. It will always be a question in each individual case whether gastroplication should not be replaced by pyloroplasty or gastro-enterostomy, as is certainly advisable when the dilatation results from pyloric stenosis.

Gastropexy.—It may be well to allude here, also, to gastroptosis or sagging of the stomach, which is with difficulty distinguished from dilatation—the so-called Glénard's disease. For its relief gastropexy or suture of the stomach to the anterior abdominal wall, similar to hysteropexy, has been practised. Duret [*] warmly advocates this plan and reports a successful case. Davis [†] has reported also two cases successfully operated upon with a modified technics. On the other hand, Ferrari and others [‡] advocate gastro-enterostomy as a preferable operation. As between the two, if gastropexy will answer, it should certainly be the operation of choice, since, as it does not open the stomach, there is less danger attending it than attends gastro-enterostomy. Treves [#] relates a very interesting case of gastroptosis and enteroptosis caused by adhesions of the omentum to old calcareous tuberculous glands in the mesentery of the ileum and lying in the right iliac fossa. The glands were removed and the liver was sewed fast to the fibrous structures at the side of the ensiform cartilage by three silk sutures passing through the round and the falciform ligaments—a hepatopexy which, with the loosening of the adhesions of the omentum, restored the liver, stomach, and colon to their proper places. After having suffered for six years the patient recovered entirely as a result of the operation.

Gastroplasty and Gastro-anastomosis or Gastro-gastrostomy for Hourglass Stomach.—The condition of hourglass stomach was long ago recognized by Morgagni, Munro, and others, but practically our knowledge dates from 1882, when Carrington,[||] Roger Williams,[△] and Grünfeld,[◊] almost at the same time called the attention of the profession to the condition. Among the more important later papers may be mentioned those of Perret [↧] and Wölfler,[↕] and individual cases which will be referred to later.

The first operation for this condition was done by Krukenberg for Schmidt-Monnard,[⇞] and the next by Doyen, both in 1893,[**] and by Wölfler,[††] in 1894.

The condition may be either congenital or acquired. Perret has collected in his thesis forty cases of the acquired form, of which thirty-seven arose from ulcer. Of the congenital variety Perret collected twenty-one cases. Much doubt is thrown on the congenital origin of these cases from the fact that I know of no post-mortems on children in which such a condition has been found. But it would seem that some of the cases, like that of Saake,[*] unquestionably arose from a malformation owing to the peculiar arrangement of the fibres of the muscular coat. Another reason also for doubting in the majority of cases the congenital origin is the curious distribution as to sex, for of fifty-six cases in Perret's collection, forty-nine were in women, and we can hardly suppose that a congenital malformation would be so uniformly restricted to females. On the other hand, we know that ulcer of the stomach in the vast majority of cases is found in women.

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[*] *New York Medical Journal*, July 9, 1892, p. 29.

[†] *Centralblatt für Chirurgie*, 1894, p. 361.

[‡] *Edinburgh Hospital Reports*, iv, 1896, p. 102.

[#] *Lancet*, 1896, ii, p. 8.

[||] *British Medical Journal*, 1898, i, p. 560.

[△] *Prager medicinische Wochenschrift*, 1896, No. 2.

[*] *Revue de chirurgie*, xvi, 1896, p. 421.

[†] *Western Medical Review*, October, 1897.

[‡] At the Eleventh Italian Congress of Surgery, *Revue de chirurgie*, 1897, p. 337.

[#] *British Medical Journal*, 1896, i, No. 1.

[||] *Transactions of the Pathological Society of London*, xxxiii.

[△] *Journal of Anatomg and Physiology*, xvii.

[◊] *Hospitals-Tidende*, Copenhagen, 2 R., ix.

[↧] *L'Estomac biloculaire.* Thèse de Lyon, 1896.

[↕] *Beiträge zur klinische Chirurgie*, xiii, 1895, p. 221.

[⇞] *Münchener medicinische Wochenschrift*, 1893, No. 19.

[**] *Traité des affections de l'estomac*, Paris, 1895.

[††] *Beiträge zur klinische Chirurgie*, xvii, 1895, p. 221.

The peculiar shape of the stomach arises from a constriction which is usually somewhere about the middle of the organ, dividing it into a cardiac stomach and a pyloric stomach, with a small orifice or tubular connection between the two. Naturally, the symptoms are those of obstruction, pain, vomiting, and distention, especially of the cardiac pouch. It is with great difficulty in most cases that a differential diagnosis can be made between an obstruction caused by the narrow tube between the two halves of the stomach and an obstruction due to pyloric stenosis. In a few cases which have been operated on, however, the diagnosis has been made prior to operation.

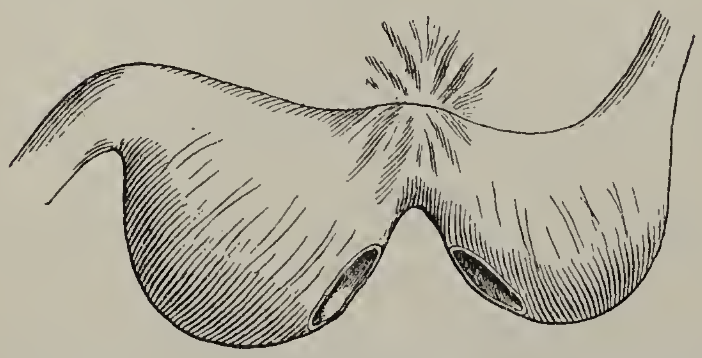

FIG. 50.—Wölfler's method of gastro-gastrostomy for hourglass stomach, showing the anastomotic openings.

Thus, in the very first case (that of Schmidt-Monnard), Krukenberg, who operated, was able, by inflation, to observe the bilocular form of the stomach through the abdominal wall, and in Jaboulay's case the diagnosis was made by distending the stomach with air, when a splashing sound was heard both above and below the umbilicus, and the air was heard bubbling through the narrow portion between the two. The stomach was then emptied of the air and distended with water, when the splashing and also tympany were still found below the umbilicus, but had disappeared above it.

In a very few cases, torsion of the stomach on the narrow isthmus connecting the two stomachs has taken place. In this case death occurs very speedily. Ordinarily, however, hourglass stomach does not develop any symptoms until adult life, and its course is slow.

So far as I have been able to discover, there have been eleven operations for this condition. In two of them nothing could be done in the way of radical relief of the condition. This leaves nine cases the treatment of which has been attended with such success that only one death occurred, that of von Eiselsberg,[*] the patient dying on the second day from the giving way of a suture, followed by peritonitis.

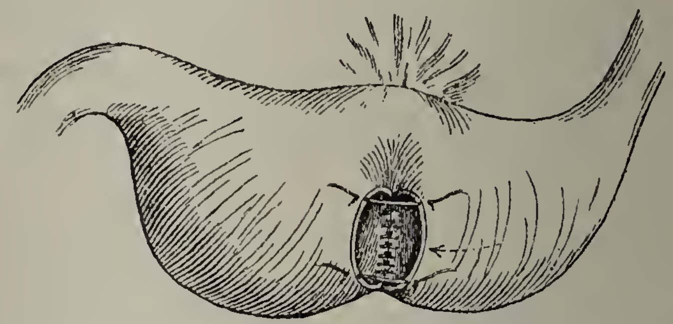

FIG. 51.—Wölfler's gastro-gastrostomy for hourglass stomach, showing the application of the sutures.

Three methods have been adopted in dealing with this condition: 1. An adaptation of the Heineke-Mikulicz pyloroplasty, which has been named gastroplasty. Inasmuch as this differs in no respect in its technics from that of pyloroplasty, I need not enter into it further. Four cases have been operated on by this method, those of Schmidt-Monnard,[†] Jaboulay,[‡] Doyen,[#] and Langenbuch.[||] Jaboulay's patient continued in good health after a year. In Langenbuch's case the vomiting recurred, and was attributed to another ulcer.

2. The second method is that adopted by Wölfler, and is termed either gastro-anastomosis or, as seems to me more desirable, following the nomenclature of gastro-enterostomy, gastro-gastrostomy. An opening is made in each of the two gastric pouches and a free communication is established between them by anastomosis of the two openings (Figs. 50 and 51).

Besides Wölfler's case three others have been operated on by this method by von Eiselsberg[△] (the only fatal case), Lauenstein,[◊] and Schwarz.[‡] In the last case the patient was well at the expiration of two months, and those of Lauenstein and Wölfler after four months.

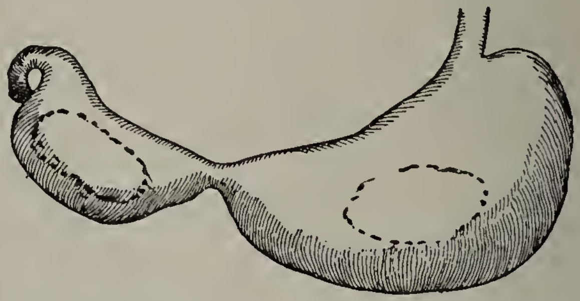

FIG. 52.—Hourglass stomach, the dotted lines showing the position of the sutures in Watson's method of gastro-gastrostomy.

3. The third method is that of Watson,[↕] and is so recent and the condition so rare that there has scarcely

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[*] Virchow's *Archiv*, cxxxiv, p. 181.

[*] *Archiv für klinische Chirurgie*, 1895, No. 1, p. 923.

[†] *Loc. cit.*

[‡] *Archives provinciales de chirurgie*, October, 1896, p. 641.

[#] *Loc. cit.*

[||] Perret, p. 114.

[△] *Loc. cit.*

[◊] *Münchener medicinische Wochenschrift*, 1896, No. 21.

[‡] *Wiener klinische Wochenschrift*, 1896, No. 25.

[↕] *Boston Medical and Surgical Journal*, April 2, 1896, p. 338.

been any opportunity for its repetition. In this case a gastro-gastrostomy was done, but in quite a different fashion from that of Wölfler. The two stomachs, if one may so call them, were folded over one upon the other, the narrow isthmus between the two being used as a hinge (Figs. 52 and 53). The two stomachs were then sutured together, the threads at the end of each suture being temporarily left long in order to locate exactly the position of the sutures. The anterior wall of the anterior stomach was then incised in order to give access to the double sæptum between the two portions. An opening having been made in this double sæptum and sutured, the external incision in the anterior stomach wall was then closed. This patient also made an admirable recovery, and, Dr. Watson writes me (May 1, 1898), is still free from any gastric symptoms.

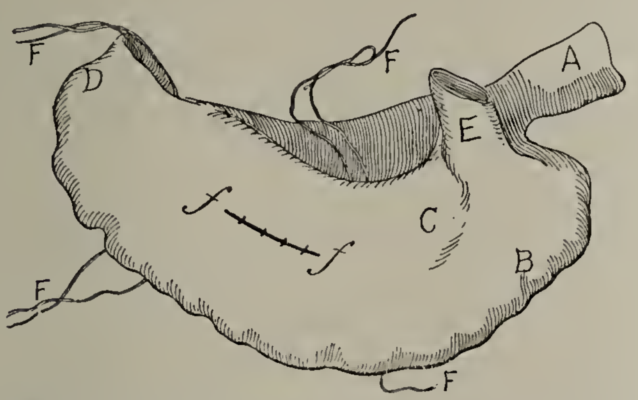

Fig. 53.—Watson's method of gastro-gastrostomy for hourglass stomach. A, the œsophagus; E, the pylorus; D, the hinge; F F F F, the ends of the sutures; *f f*, the incision in the anterior wall of the anterior half of the stomach through which the sæptum between the two halves is incised and sutured. The incision *f f* is then sutured.

Which of these three methods, all seemingly equally successful in their results, shall be adopted must be determined by the mechanical conditions of each case, for the essential mortality is practically zero in all of the methods, the one death being accidental. If there are adhesions, fixing either portion of the stomach, Watson's plan would be, of course, out of the question. When the stomach is free from adhesions any one of the methods may be adopted at the pleasure of the operator. If there should be found evidence of pyloric stenosis, gastro-enterostomy would have to be done, best perhaps in the cardiac stomach.

A REPORT OF
TWO ASEPTIC OPERATIONS AT SEA.

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The two following cases occurred on board the training ship *Alliance* while in mid-ocean, and my object in reporting them is to show what can be accomplished in the way of aseptic results when separated from the rest of humanity, with only the facilities for surgical work that are to be found in an antiquated wooden cruiser, commonly supposed to be a rather veritable hotbed for germs. This supposition is well founded, because a porous wooden ship that spends a large part of its career in tropical ports and waters necessarily gathers in a variety of germs.

The "sick bay," which is a compartment that is used as a hospital ward, is situated, as a rule, in the "eyes of the ship" (the extreme forward situation). Here, among anchor chains, with water-closets in close proximity, it may surprise many to learn that such operations as skin-grafting and a modified Whitehead's operation for hæmorrhoids took place. On account of this unfavorable environment, therefore, and not on account of any particular intrinsic peculiarity, I record these cases:

The first patient, a mess attendant, aged twenty-one years and six months, was admitted on July 8th. He complained of great pain and uneasiness about the anus. Upon examination, a large external pile, which measured about twenty millimetres in diameter, was found. The patient was immediately given a large dose of castor oil, which was followed, after catharsis, by enemata of olive oil until a thorough emptying of the lower bowel was accomplished. Nothing but liquid diet was then given him, and on the following morning several cleansing enemata were administered, the oil being replaced by the following mixture: Boric acid, five parts; opium, one part; and sterilized water, ninety-four parts. This was repeated several times until the fluid came away clear. The patient was then put to bed, and the bowels were locked with the necessary narcotization, and in the afternoon, about three hours afterward, the cutting operation was begun.

Anæsthesia was accomplished with sulphuric ether and the patient was placed in the lithotomy posture; an anal speculum was placed *in situ* and another survey of the affected parts taken. An incision was made into the semi-fleshy mass, which was carried from the junction of the skin and the mucous membrane at the anal orifice an inch, ascending and penetrating to the muscular rectum. The clotted contents were dislodged by curetting, and then the entire hæmorrhoid was dissected from the muscular coat, after which a natural coaptation of the cut edges resulted, no stitching being required. Comparatively speaking, the hæmorrhage was slight and soon under control. A large gauze tampon was then secured within the bowel by means of a T-bandage, and the patient was allowed to recover from the anæsthesia. Three days after operating the tampon was still in place, and no fæcal matter had descended between it and the rectal walls. On the fourth day the tampon was removed, disclosing a narrow line of healthy granulations. The rectum was then irrigated with a warm boric-acid solution, and at night a suppository composed of the following was inserted: Cocaine, 0.013 of a grain; powdered opium, 0.06 of a grain; benzoic acid, 0.07 of a grain; tannic acid and boric acid, each, 1.35 of a grain; cacao butter, 3.75 of a grain. On the following day the bowels were moved naturally, and nothing further was done, except to continue the use of these suppositories for several succeeding nights, and the patient was discharged completely cured.

The second patient was an apprentice who had attempted to remove a wart on the knuckle of his right middle finger. This had caused an exacerbation of the growth, and when he was seen the back of the first phalangeal joint was entirely covered by an indurated, uneven lesion, which was elevated about four or five millimetres. An Esmarch bandage was applied to the arm, and the operative measure was entirely bloodless. The mass was dissected, and all tissues, down to a very thin partition of the ligament covering the joint cavity, were extirpated. It was not practicable to draw the edges of the cut skin over the denuded part, so skin-grafting was decided upon. An area on the left arm was shaved and thoroughly scrubbed, then alternately cleansed with ether, mercurial-chloride solution, and sterilized normal saline solution. This area was then covered with antiseptic gauze until it was ready for use. Two small skin grafts, four square millimetres in size, were removed from this surface and immediately applied to the knuckle and held in place by sterilized oiled silk bound tightly around the finger. Over the silk, gauze, sterilized and moistened with normal saline solution, was placed; over this a second layer of oiled silk was placed, and over all an antiseptic-gauze dressing. Three days afterward the dressings were carefully removed, and it was seen that the little sections of cuticle had become attached to the beginning granulations. This dressing was continued and ultimately a complete skinning over of the entire raw surface occurred.

COLOR PERCEPTION.

By F. J. B. CORDEIRO, M. D.,

SURGEON, U. S. NAVY.

It is not the intention of the present paper to formulate any new theory of color perception nor to discuss the relative merits of the many existing theories, but simply to examine how far the phenomena in question may be explained by our present knowledge of anatomy and physics. As Professor Le Conte remarks: "The subject is yet in the region of speculation, though probably of profitable speculation." The optics of the eye have long been thoroughly explained; the path of every ray of light has been accurately traced and measured; its course has been clearly followed until it struck the furthermost layer of the retina, when the pursuit was given up and the former clear and mathematical methods of examination were exchanged for metaphysical and psychological abstractions. Even such physicists as Young and Helmholtz were content to frame a hypothesis of three different kinds of nerve fibres—different only, for the sake of their hypothesis, in that they were supposed to respond in different degrees to rays of different colors. This in face of the fact that they could in no way demonstrate a difference between one nerve fibre (or cone) and another. Nor could they claim that the differences of the physical factors they were dealing with were of such an order of minuteness as to justify a belief that the differences in the analyzing mechanism were too small to be perceived. The difference between the wave lengths of two different kinds of light is a linear dimension that can easily be perceived and subdivided under the microscope. To suppose that two precisely equivalent bodies possess finitely different physical qualities is a gratuitous assumption; but the Young-Helmholtz theory can be disproved crucially in other ways. Most of the other theories have been metaphysical, with more or less of a leaven of physics or chemistry as a basis.

That the rods and cones layer of the retina is the part where light and color are perceived was recognized by the earliest observers and is capable of tolerably strict proof. Since the macula lutea contains no rods and visual purple, but only cones, and since an eye furnished posteriorly with no other part of the retina but the macula can perform all the functions of an eye, the cones will alone for the time being be considered in the present problem. The rods and their visual purple are superfluous factors—not necessary to vision and color perception. What their function is, if any, does not concern us at present.

W. Zenker * (1867) made the very plausible suggestion that the different-sized plates of which the outer bodies of the cones were built up responded to the different colors—a red ray setting up vibrations in the larger plates, a violet ray in the smaller ones. But Zenker's theory, if such we may call it, was not followed up by any experiments or measurements—it was merely a surmise. Later, Stanley Hall † has received this hypothesis. He writes: "Let us assume also for the present that the discs are arranged in a spectral order—those sensitive to the red near the point, those sensitive to violet near the base of the cone—each disc being transparent to all waves of greater length than those to which it is best fitted to respond." There seems to be a perversity here in ascribing the large discs to the violet rays and the small to the red, exactly the opposite of what would seem to be the natural order. Hall had in mind here the fact that the red rays, having a lesser refractive index than the violet, are brought to a focus beyond them, and, by making his hypothesis as he did, he obtained the additional advantage of accounting to a certain degree for the practical achromatism of the eye.

Considering now the surmise of Zenker, it is evident that on his hypothesis the images of external objects must fall at different distances in the back of the eye to be sharply perceived. A red object, therefore, must have its image thrown on a plane passing near the base of the cones, while a violet image must be in a plane cutting the tips. As the outer bodies of these cones in the macula are .040 to .060 millimetre long, it will be seen that the red and violet planes must be this distance apart. It is curious to observe in this connection that Helmholtz always speaks of the retina optically as if it were a mathematical plane, although it is a body having considerable thickness. Further, he does not specify where this plane is situated in the retina. It would be

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* Versuch einer Theorie der Farben-Perception. Schultze's *Archiv*, Bd. iii.

† *American Academy of Science and Art*, vol. xiii, 1878.

idle to carry this speculation further unless the distances mentioned above were capable of measurement. They are, however, sufficiently large to be directly measured.

If we know the indices of refraction of the media of the eye for red and violet rays it will be easy to find the conjugate planes where, for an unaccommodated eye, the object and its image must lie for distinct vision for these two colors. For our data we must rely upon the determinations of Fraunhofer.* This exceedingly accurate observer found that the dispersive power of the media of the eye did not differ perceptibly from that of water. His determinations of the refractive index of water for red light, corresponding to his line C, was 1.331705; violet light, corresponding to his line G, was 1.341285. Substituting for the average eye a Listing's reduced eye where a refracting surface having a radius of 5.1248 millimetres separates air and water, we find that parallel red rays will be focused at a distance 20.574 behind the refracting surface, while the conjugate plane corresponding to this for violet rays would lie at a distance 713 millimetres in front.† Fraunhofer found, however, that it was necessary to bring an object up to 658 millimetres before it could be sharply perceived. Helmholtz, assuming that the violet image must lie with the red image upon the "Plane" of the retina, accounted for the disparity by supposing that the dispersive power of the lens must be greater than that of water. According to this view, the refractive index of the eye for violet would be 1.34209.

Helmholtz found in his own case that while the violet rays should proceed from a point 560 millimetres in front of his eye, if the dispersion were the same as water, as a matter of fact they diverged from a point only 493 millimetres away. If the violet plane coincided with the red plane this would correspond to a refractive index for violet of 1.34289.

The hypothesis that all images are formed upon the same mathematical plane in the retina is improbable, because no such plane is delimited anatomically in the eye, as well as for the following reasons: Let us, in accordance with Fraunhofer's measurements, assume that the dispersive powers of the media of the eye and water are sensibly the same, we find that in Fraunhofer's case the violet plane would lie .037 millimetre behind the red plane, while in Helmholtz's case the violet plane would lie .075 millimetre behind the red plane. It is remarkable that these distances correspond nearly to the length of an outer body of a cone, creating a strong presumption in favor of Zenker's hypothesis. From my own measurements I have found that the violet plane lies .083 millimetre behind the red, but my apparatus was not refined enough to give more than approximate results.

It is mere speculation to consider further how the plates take up the vibrations corresponding to their own particular frequencies. A remarkable fact, however, is that, according to M. Schultze's* measurements, the thicknesses of the plates correspond about to the wave lengths of different colored rays. The larger plates, for instance, have a thickness of .0006 millimetre, while the wave length of orange is .000607 millimetre. We know that if a sound wave passes through an organ pipe the length of which is equal to the length of the wave, it will be set into synchronous vibration. It is thus possible that that particular plate will be set into vibration the length of which equals the wave length of the light.

At the risk of indulging in idle speculation we will complete the present part of the subject by considering the function of some remaining parts of the retina. The inner part of the cone contains a highly refracting body called the cone-ellipsoid (*Faden-apparat* of M. Schultze). The flat base is turned outward and the ellipsoidal surface toward the light. It suggests the function of a final refractor, condensing the rays on to the plates. Since it possesses a fibrillary structure, and since this inner body has been observed to contract and thicken up, varying with the color of the light, it possibly may have some effect in tuning up the plates so as to fit them to some particular vibration. It remains to consider the epithelial layer of the retina, which in the dark shrinks up into itself, but under the influence of light sends out long, slender processes loaded with pigment granules, which finally thrust themselves between the cones beyond the limits of the outer bodies. The first state is the condition of a retina which has been a long time in a dark room and comes suddenly into a lighted room. Notwithstanding the fact that the pupil promptly contracts and shut out all but a few central rays, all objects are confused and surrounded by a glare, which gradually fades away as the retina passes into the second condition described above. The function subserved by these long pigmented processes, which dip down between the outer bodies, shutting them off from each other, would naturally be supposed to be that of damping. When the cones lie in a directly communicating space it would be natural to suppose that the vibrations of one will be taken up by the directly contiguous ones, and thus the sharpness of objects, which is produced by the external projection of unit sensations into space, would be interfered with. In fact, it is thus that Helmholtz explains the phenomena of irradiation. But when the wall of pigmented processes shuts in each cone then its proper vibrations are confined to itself.

It will be noticed that the rods and their visual purple have not been touched upon in this discussion, as the problem can be completely dealt with without their aid. In fact, they seem to be superfluous factors. While each cone has in all probability its own nerve fibre conducting its vibrations and referring its sensations to its proper place, it is certain that each rod can not have a fibre of its own. In that case the number of fibres in the optic nerve would far outnumber the actuality. The suggestion which has been made, that the cones are highly developed and specialized rods, while the rods are undeveloped and functionless bodies, seems highly probable.

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* Gilbert's *Annalen*, vol. lvi, p. 304; Schumacher's *Astronomische Abhandlungen*, Heft ii, S. 39.

† Helmholtz. *Physiologische Optik*, § 13.

* Schwalbe. *Lehrbuch der Anatomie des Auges.*

When the vibrations of a ray of light are of any and all kinds, the result is the sensation of white. In such a case all the plates of a cone must be in motion. When two colored rays are blended the following phenomena are observed: Letting one color remain constant and the other range from a like vibration to the extremest period visible, it will be observed that the resultant color, when they are near together, will be a shade intermediate between the two colors. But it will not be the pure intermediate color. Instead it will suggest that color with a greater or less admixture of white. As the interval increases, the suggestion of the intermediate shade will be fainter and the admixture of white greater. In the analogy of sound it will be like a noise, in which among the various irregular periods a certain vibration period can still be heard. When the colors are a certain distance apart all trace of an intermediate color is lost, and the sensation is that of white.

Proceeding beyond this critical distance, the sensation of white still predominates, but the individual colors begin to be faintly perceived, until after a certain interval the two colors are perceptible separately and the admixture of white is slight. Taking the extreme red of the spectrum as our initial color and adding to it a red bordering on the orange, a shade is produced nearly corresponding to the middle part of the portion considered, though with a slight admixture of white. On adding to the extreme red a pure yellow, we obtain the intermediate shade of orange with a greater admixture of white. On adding to our extreme red a blue green, we no longer obtain an intermediate shade, which in this case would be yellow, but the sensation produced is white, or, if the critical point is not exactly reached, at least a pale straw.

Beyond the critical point, although the predominant sensation is white, still we can distinguish a shade of red and a shade of blue, making what is commonly known as a purplish white. When the extreme red and extreme violet rays are mixed, the sensation is that of purple—*i. e.*, the two colors are perceived separately as such, with a slight admixture of white.

Without wishing to add a new theory to the many existing, the preceding phenomena can be naturally explained in the following way. When two plates vibrate, their motions must be imparted to a certain extent to the neighboring plates. When they are near together, the maximum of motion will be at a point between the two, shading off gradually in each direction. When they are a certain distance apart—the critical distance—the motion becomes more or less distributed over the entire series, so that a sensation simulating white is produced. When the extreme parts are in vibration the motion is confined chiefly to the extremities.

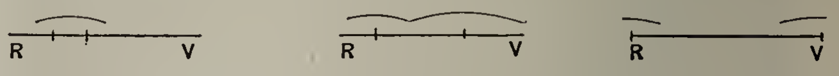

Fig. 1.

Fig. 1 exhibits diagrammatically these three different cases.

The following table is taken from Helmholtz: *

Color.	Wave length.	Comp. color.	Wave length.	Ratio of wave lengths.
Red..........	.6562	Green blue.	.4921	1.334
Orange.......	.6077	Blue.	.4897	1.240
Gold yellow...	.5853	Blue.	.4854	1.206
Gold yellow...	.5739	Blue.	.4821	1.190
Yellow.......	.5671	Indigo blue.	.4645	1.221
Yellow... ...	.5644	Indigo blue.	.4618	1.222
Green yellow..	.5636	Violet.	From .433 on.	1.301

Suppose that the plates decrease regularly in size, it will be seen that the critical points are nearer together when they both lie well within the spectrum than when one approaches either extremity.

When one point corresponds with the red extremity, the other lies at a point having a ratio of wave length equal to 1.334, which is a maximum. The minimum is reached when the points are equidistant from the ends—*i. e.*, for gold yellow with a wave length of .5739 and blue with a wave length of .4821. When one point corresponds with the extreme violet, the ratio of the wave lengths is again a maximum. The three cases are exhibited diagrammatically by Fig. 2.

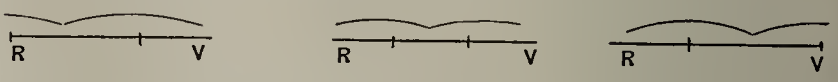

Fig. 2.

This is as we should expect. When one vibrating point coincides with an extremity, its influence can only extend on one side, and to affect the whole series the second vibrating point must lie farther out than when both points are well inside, where disturbances can be conducted on both sides.

It will be seen that the above explanation practically includes the Young-Helmholtz hypothesis as well as Hering's theory and a number of other possible suppositions.

Zenker's hypothesis, therefore, is a strong physical probability. There are direct measurements which raise a strong presumption. The other theories are mere metaphysical abstractions.

The Buffalo Academy of Medicine.—At the last meeting of the Section in Pathology, on Tuesday evening, the 17th inst., the following papers were to be read: The Diseases of the Antrum of Highmore, by Dr. William C. Barrett, of Buffalo; and The Pathology of the Blood, by Dr. Albert E. Woehnert. Specimens were to be exhibited by Dr. Edmond E. Blaauw.

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* Helmholtz, *Physiologische Optik.*

DIPHTHERIA ANTITOXINE AS AN IMMUNIZING AGENT.

By W. M. DONALD, M. D.,
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The status of antitoxine as a curative agent in diphtheria is moderately well determined. There are few who have had any extended experience with this dread disease, and who have used antitoxine in its treatment, but will subscribe themselves unanimously in its favor. It is true that occasionally there comes a muttered growl of dissent from some timid member of the profession, who, having waited too long, till the system was overwhelmed by the toxines of diphtheria, has used antitoxine as a last resort only to find his patients die with regularity and celerity.

It is equally true that stragglers in the profession as in the army can never see the necessity for advance, preferring to drag behind till whipped up into the vanguard, or till forced by the dangers in the rear to come up with the column of march. But the mass of the profession to-day believe in antitoxine as one of the half dozen remedial agents of value which have been discovered in the last quarter-century.

More than that, the mass of the profession to-day believe it to be the *best* of the half dozen, and are rapidly approaching the point of calling it criminal to refrain from using it in any moderately severe case of diphtheria.

While, however, the status of antitoxine as a curative agent is thus well established, its status as an immunizing agent remains uncertain.

The difficulty of determining the immunizing value of any drug in any disease is almost self-evident; for who can say how many cases exposed to contagion in any selected series of cases will contract the disease?

Almost daily, moreover, we are learning something new of the antitoxic and resisting powers inherent in the human frame.

But physicians in charitable institutions have come to expect that where children are segregated in large numbers a single case of diphtheria is certain to be a focus for the extension of the disease to a goodly number of the other inmates. This is morally certain to be true, moreover, even where the most rigid precautions are observed in regard to isolation and disinfection.

Since the introduction of antitoxine, however, these same physicians have been accustomed to lean upon it and to depend upon it to protect their little charges when any outbreak of diphtheria has occurred. Have they been leaning upon a broken reed which will show its weakness when its strength is most needed; have they been depending upon a remedy which will fail them in their extremity?

To determine this point will demand an enormous mass of statistics, with a most careful sifting of the evidence.

The writer is a firm believer in the immunizing power of antitoxine for at least several weeks following the use of the drug; but, since a large amount of skepticism is rampant among the profession with regard to this power, and since a number of the better men are questioning it, one feels it necessary to give a reason for the faith that is in him.

As such, then, and as a contribution to statistical facts upon this moot point, the following records are presented:

On April 2, 1896, a case of laryngeal diphtheria was discovered at the Detroit Protestant Orphan Asylum. During the next seven days, and despite the most rigid isolation and watchfulness, seven new cases developed. Immunizing doses of antitoxine (two hundred and fifty units of Parke, Davis, & Co.'s antidiphtheritic serum) were then administered to the remaining eighty-seven children, with the result of practically stamping out the disease at once. Ten days afterward, it is true, one case of pharyngeal diphtheria developed, but the other eighty-six cases remained immune.

During January, 1897, a similar outbreak occurred during the attendance of my colleague, Dr. Douglas. Before it could be controlled five cases of laryngeal diphtheria had developed, two of which proved fatal.

The selective preference of the germ for the larynx in these cases, as well as the sudden outbreak of the poison (all of the cases developing within three days), are matters of interest.

At this time antitoxine in doses of five hundred units was administered to seventy-one children, and in doses of two hundred and fifty units to nine, the latter being the very young, from two to five years of age. I may say here that the children in this institution vary from two years to fourteen years.

The result in this series was even better than in the preceding one—none of the eighty children developing diphtheria after the injection with antitoxine.

In December of the same year, and during my service, another outbreak occurred, two cases being discovered on the 27th and four more on the 29th.

On the 31st, assisted by my friend Dr. E. M. Houghton, I immunized seventy-nine children; twenty-five of the younger children with three hundred units and fifty-four of the older with five hundred units of antitoxine. Result: Four days afterward, one child who had received the larger dose, a girl of seven years of age, showed well-marked faucial diphtheria; the other seventy-eight children remained well.

Out of the two hundred and forty-six children immunized during these three periods four developed urticaria of moderate severity and three a slight general erythema.

These untoward symptoms passed away in about twenty-four to forty-eight hours, giving us no further trouble.

In one case on the last date, December 31, 1897, a hypodermic needle of small size was broken in the buttock and could not be recovered. At this writing, almost five months afterward, no symptoms referable to this foreign body, reluctantly allowed to remain in the tissues, have been manifested. The child is under observation and will be watched closely for further report. After each series of immunizations a number of cases of suspicious sore throat developed, with whitish exudates upon the tonsils, but bacteriological examination revealed only cocci, and no Löffler germs present in any case.

I wish to call attention to the fact that none of these series of immunizations were conducted immediately upon the appearance of a single case of diphtheria, which might have been considered a sporadic waif, and from which no further cases might have arisen; but that on each occasion several days were allowed to elapse after the first manifestation of the disease. During this time the most rigid system of inspection was instituted—every throat in the institution being examined each morning—and every other precaution taken to prevent the spreading of the disease.

Despite these measures the disease spread in each of the three outbreaks reported, and refused to be controlled until the immunizing doses of antitoxine were administered. After that period, as reference to the above reports will show, the disease was controlled without trouble.

I also wish to call attention to the varying dose of the antitoxine employed—two hundred and fifty, three hundred, and five hundred units. This was in the nature of an experiment to determine, if possible, the best immunizing dose.

It will be observed that practically as good results were obtained from the smallest dose as from the largest; one case developing after the use of two hundred and fifty units, and one after five hundred units.

We have thus a percentage of failures of only four fifths of one per cent. in the whole number reported. Certainly a most gratifying showing.

Attention may finally be called to the fact that precautions were taken to permit of but the minimum of errors creeping into this series.

Every case in which the element of doubt entered at all had a clinical diagnosis reenforced by a microscopical examination.

I therefore feel that the report of these series of cases was as free from error as it is possible to make such a report. I present it with very much pleasure, and with the sincere hope that it may prove of value in the statistical study of antitoxine with relation to immunization.

In conclusion, I beg to offer my sincere thanks to my colleague Dr. Charles Douglas for the use of his figures and reports; and to Dr. E. M. Houghton for his valuable advice and assistance in making bacteriological examinations of all the doubtful cases. The antidiphtheritic serum employed for immunizing in these cases was generously given by Parke, Davis, & Co.

970 Jefferson Avenue.

EPILEPTOID SEIZURES APPARENTLY DUE TO NASAL OBSTRUCTION.

*REPORT OF A CASE.**

By ELIZA H. ROOT, M. D.,
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The general practitioner who observes nasal affections with reference to their cause and effect will learn to form for convenience two general divisions: First, as local, and giving rise to symptoms referable to other organs of the body, notably the nervous system; the second as those apparently resulting from pathological conditions remote from the nose—notably, the digestive tract.

The case it is my privilege to report before this society belongs to the first division, and may come to any practitioner, as it came to me, by the merest accident.

Mrs. A. B., aged twenty-five years; married five years; housekeeper; no children. Had one pregnancy that terminated at the end of the fourth month. Patient could give no reasonable cause for the accident. Menstruation normal as to time and quantity of flow.

Since the miscarriage there had been occasionally a discharge of small clots during the flow. At such times there was slight increase of pain, though never at any time was menstrual pain severe. Slight leucorrhœa between periods. Function of bowels and stomach fairly good. Occasionally constipated, which at the time I first saw the patient seemed due to lowered vitality of the intestinal walls (large intestine). No history of venereal disease was obtainable. Patient complained of having headache at times, dull in character, occurring mostly when she had a cold, was weary from a day's work about her house, or had been out in a cold wind.

I noticed the facial expression was greatly marred by the expansion of the nasal bones, the alæ nasi participating in the widening, which gave the nose a flattened appearance, although the root of the nose was not depressed.

Pulse and temperature normal; urine normal as to specific gravity, sugar, albumin, and reaction; no lesion of heart or lungs.

The patient came seeking relief for "fits" or "falling spells," as she expressed it.

She stated that she had suffered from these attacks between two and three years. At first they were not very severe or frequent, but for the three or four months prior to her visit to me the "spells" had become more frequent and severe in character, occurring as often as once or twice a week.

She felt the attacks coming on, but was unable to describe the aura further than that she "felt queer."

The patient's sister, who came with her, and who had witnessed the attacks, gave a good description of epileptic seizures of *grand-mal* type.

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* Read before the Chicago Pathological Society, December, 1897.

That the patient was unconscious during the seizure was evidenced by the presence of a nearly healed eschar, the result of a burn received from a fall upon a hot stove.

The patient had been persuaded that the "spells" might be due to uterine disease, so came to me for a pelvic examination. I made the examination and found a non-purulent catarrhal endometritis (cervical) with a general venous congestion of all the pelvic organs and their surrounding tissues. Capillary circulation was generally poor, as the blueness of tongue, lips, finger nails, and general integument bore evidence. The pelvic conditions did not satisfy me as to the real cause for the epileptoid attacks.

From the history obtained I favored the diagnosis of true epilepsy, but withheld a diagnosis for the time, and advised treatment for the endometritis (cervical), which I hoped to relieve while making further study of the case.

During the patient's third visit, while lying upon the operating table, the light from a window fell upon her face so as to illuminate the anterior portion of the nasal cavities. I noticed the mucous membrane was red and inflamed, and asked the patient if she ever had trouble with her nose. She replied: "No; not much. I used to have catarrh, but don't mind it much now." I examined the nose and found a deflected and ulcerating sæptum naris; the turbinated bodies, especially the lower, were enlarged and inflamed. Bands of tissue, probably adhesive in their origin, extended across the nasal cavities, from the inferior turbinated bodies to the sæptum. Three of these bands were on the left side and two on the right. They were graduated in length from below upward, the lowest being the longest and most attenuated. The upper bands were short and broad, completing the occlusion of the passages. Above the bands were small bony protuberances projecting into the upper portion of the nasal cavity. The nasal cavities were thoroughly cleansed with a solution of boric acid and the bands severed. The cut ends and inflamed surfaces were touched with a drachm of nitrate of silver to an ounce of water, and the patient given a snuff composed of calomel, bismuth subnitrate, and pulverized boric acid, with instructions to use it three or four times a day until her next visit. The bands were quite sensitive and vascular, causing considerable bleeding. At the next visit the improved condition of the nose was marked. The patient reported that she had had no "spells" during the week, and that the head symptoms were greatly relieved; as she expressed it, "My head feels clear and light. I can breathe through my nose as I never did before." She could not remember that she had ever breathed through her nose freely, and expressed surprise at the difference between mouth and nose breathing. The nasal mucous membrane was again cleansed, touched with the nitrate-of-silver solution, and the snuff continued. The patient continued under treatment about six months, one visit each week. Her general health was greatly improved; the mucous membrane of the nose healed. The pelvic circulation also improved, while the endometritis was cured. She had had no more "fits" and the blueness of the lips, tongue, finger nails, and the skin had changed to a normal pink.

About a year after her discharge she called to see me prior to leaving the city permanently. She stated that she felt quite well, had had no more "fits," and could breathe freely through the nose. The eyes were stronger, and she "hardly ever had a headache now."

Medical Treatment.—The patient was put first upon a mixture of iron, quinine, and strychnine, with improvement. When the nose yielded so kindly to the application of nitrate-of-silver and calomel, the iron, quinine, and strychnine mixture was changed to iodide of potassium, fifteen grains; bichloride of mercury, a thirty-second of a grain, and tincture of cinchona, enough to make a drachm, three times a day. Improvement continued, but could note very little difference between the two mixtures.

Whether there was any venereal infection in the case or not I am unable to say. Still, the question I think might be raised as to the true cause of the nasal disease and of the epileptiform seizures. If due to syphilitic infection, I would favor the belief that it was congenital, and that the nose difficulty had existed since childhood.

70 State Street.

A CASE OF INTRAORBITAL TUMOR.*

By E. E. BLAAUW, M. D.,
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OPHTHALMOLOGIST AND AURIST OF THE GERMAN DEACONESSES' HOME, ETC.

Tumors in the orbit are not very often seen. In the ophthalmological records of the University of Amsterdam, Holland, I found on record only 25 cases for the last twenty-four years in 107,201 patients—that is, only one orbital tumor in 4,288 patients. This is the reason why I deem the report of my case not to be devoid of general interest.

Miss S., aged sixteen years, of German descent, consulted me the 15th of November last year about a deviation of her right eye. Her physician, Dr. Gaertner, sent her to me with the diagnosis of intraorbital tumor. She had before consulted four different ophthalmologists who did not seem very anxious to perform an operation, the only treatment indicated. She came to me with a split lacrymal duct, and the record of other less harmful treatments, as salves, etc. When first I saw her, her right eye was turned to the outer upper corner of the orbit; in the inner lower corner there was a slight bulging. There was no exophthalmia; her eyelids closed on both sides equally well. The patient did not complain of double vision, nor had she ever noticed anything of the kind; I could not detect it by putting a red glass before the one or the other of her eyes. On palpation I could move the bulbar conjunctiva freely over the prominence; there was nowhere any sign of adhesion. The tumor made a partly lobular impression and could be pressed more into the orbit.

Vision of both eyes was normal ($V = 1$). With the ophthalmoscope no sign of pressure was made out; fundus was absolutely normal; rhinoscopy proved the nose to be normal.

I made the diagnosis of a benign tumor, either lipoma or dermoid, and advised operation. With the assistance of Dr. W. Gaertner, under chloroform narcosis, I made an incision in the bulbar conjunctiva and came upon fat tissue, which had made the lobular impression above mentioned. After lifting this and opening the outer layer of the capsula Tenoni, a tumor presented itself, white, nodular (like a round pebble), about eight millimetres in diameter.

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* Read before the Surgical Section of the Buffalo Academy of Medicine, March 1, 1898.

With blunt hooks the tumor could be separated; only the basis, which was about twenty millimetres deep in the orbit, had to be freed with the scissors. The tumor broke under the manipulation, and its contents came out as a pultaceous, gritty mass (like putty), as in atheromatous cysts of the scalp. After sewing up the conjunctiva, a monocular bandage was applied.

That the tumor could in no way be in connection with the tear apparatus was shown by its subconjunctival position and its remoteness from the lacrymal canal. That it was benign, was evident from its slow growth (so that even no double vision had manifested itself), also from the absence of any adhesion with the surrounding tissues and its absolute disconnection from the eyeball.

In the *Traité des maladies des yeux* Panas refers to fifty-seven cases of dermoid tumors about the eyeball, thirty of which cases show the dermoid to be located on the internal side. These dermoid tumors are congenital, and are very apt to grow more quickly at the age of puberty; they take their origin from a wedging in of a part of the ectoderm at the level of the branchial folds or invaginations during embryonic life.

It is interesting that after the operation the patient saw only double in the upper outer part of the right field of vision, which I think is a sign of paresis through pressure on the oblique inferior muscle. Microscopical examination of the wall of the tumor, for which I am indebted to Dr. Williams, pathologist to the Buffalo University, confirmed the diagnosis.

Therapeutical Notes.

Unna's Epilating Sticks are described in the *Monatshefte für praktische Dermatologie,* xxvi, No. 1 (*Deutsche Medizinal-Zeitung,* April 14th), as consisting of nine parts of rosin and one part of yellow wax. They are used like sealing wax; the softened end (not hot enough to burn the skin) is pressed gently upon the part to be treated, and when it has cooled the stick is jerked away rapidly in the direction of growth of the hairs, which it brings with it.

Exalgine in Dental Neuralgia.—Dr. F. C. Caley, of New Castle, reports the cure in a few minutes of severe dental neuralgia by means of a single dose of two grains of exalgine in an alcoholic solution. A drachm of rectified alcohol will dissolve twenty grains of exalgine, which latter is not precipitated by the addition of a small quantity of water.—*Clinique* (Montreal), April.

Largin, a New Remedy for Gonorrhœa.—Pezzoli (*Wiener klinische Wochenschrift,* March 24th; *Klinisch-therapeutische Wochenschrift,* May 1st) says that this new albumin compound of silver contains 11.2 per cent. of the metal, more than that of any analogous preparation. It is so unirritating that it may be injected in one- to one-and-a-half-per-cent. solutions several times a day and retained in the urethra for from ten to thirty minutes. It has been used in sixty cases in Finger's clinic, and forty-one of them have been closely and sufficiently watched. In twenty-seven of these it acted very well, and the average duration of treatment was thirty days. The deep urethra was not involved in any of them. In eight cases it had no noteworthy effect, and posterior urethritis was developed. When the deep urethra was affected before the remedy was used, its action was not particularly favorable; only two cases out of six were cured. The author advises the use of astringents also toward the close of the treatment, when the discharge is subsiding.

Europhene in the Treatment of Ulcers.—Van der Spek (*Medisch Weekblad,* 1897, No. 24; *Deutsche Medizinal-Zeitung,* April 21, 1898) has used europhene extensively in dermatological practice, and found it particularly serviceable in ulcerative affections, whether syphilitic, lupous, leprous, chancroidal, or arising from frostbite or gangrene. He applies it in the form of powder, either pure or mixed with talc in various proportions (from one part of europhene to from one to five parts of talc), or as an ointment containing from four to ten per cent. of the drug.

The Treatment of Spermatorrhœa.—The *Journal de médecine de Paris* attributes the following formula to Sinéty:

℞ Extract of belladonna, } each..... 3 grains;
Powdered belladonna, }
Conserve of roses............... a sufficiency.
M. Divide into ten pills.

If the emissions are the result of spasm of the seminal vesicles, from one to three of these pills should be taken on going to bed; or, instead, three quarters of a grain of camphor or a grain and a half of lupulin may be taken, or potassium bromide in daily amounts of from fifteen to sixty grains.

If the spermatorrhœa proceeds from atony of the seminal vesicles, on the other hand, cold enemata should be employed, also cold jet douches of from ten to twenty seconds' duration. In addition, one or two doses of the following powder should be taken with the morning and evening meals:

℞ Freshly powdered ergot.......... 1½ grain;
Powdered nux vomica........... $\frac{3}{10}$ of a grain.
M. For one dose.

Ammonium Chloride in Dysentery.—Dr. John W. S. Attygalle (*British Medical Journal,* May 7th), writing from Colombo, Ceylon, speaks highly from experience of drachm doses of ammonium chloride given every four hours in dysentery, milk and arrowroot diet being ordered. He has been surprised in the majority of cases at the rapid disappearance of blood from the stools, generally on the third or fourth day, and at the freedom from abdominal pain. In two cases only had he to resort to other treatment, which consisted of small doses of the extracts of opium and cannabis indica dissolved in about a wineglassful of honey and mixed with about a quarter of a fresh bael fruit, which is eaten at the time.

Salophene in the Treatment of Headache and Influenza.—A writer in the *Rivista clinica e terapeutica* for December, 1897 (*Gazette hebdomadaire de médecine et de chirurgie,* May 1, 1898) says that salophene acts very rapidly in ordinary headache, in migraine, in facial neuralgia, in toothache, and in influenza. Fifteen grains may be given to begin with, in cachets or dissolved in water, and the dose may be repeated at the end of an hour. In influenza it is better to give seven or eight grains every two or three hours, and diminish the dose gradually as improvement shows itself. When influenza is epidemic, salophene, given in small doses, seems to act as a prophylactic.

The Alkaline Treatment of Eczema.—The *Journal des praticiens* for April 30th attributes the following formulæ to Brocq:

1. ℞	Sodium benzoate	2 to 5 parts;
	Sodium bicarbonate	12 "
	Syrup of fumitory, Syrup of gentian, Syrup of saponaria, each	150 "

M. S.: From two to four tablespoonfuls daily.

2. ℞	Sodium bicarbonate	7½ grains;
	Lithine carbonate, Lithine salicylate, each	3 "
	Carbonic-acid water	4,500 "

M. S.: Two glasses daily.

Orthoform as an Anodyne in the Arsenic Treatment of Cancer.—Professor Badal, of Bordeaux (cited in the *Klinisch-therapeutische Wochenschrift* for May 1st), uses the following formula, a modification of Czerny and Trunecek's:

℞	Orthoform, Arsenic acid, each	1 part;
	Alcohol, Distilled water, each	75 parts.

M. S.: For external use. If a stronger paste is desired, only forty parts each of alcohol and water may be used.

Arecoline Hydrobromide in the Treatment of Glaucoma.—Lavagna (*Gazzetta medica lombarda*, 1898, page 55; *Gazette hebdomadaire de médecine et de chirurgie*, May 1, 1898) reports that for two years past he has employed a one-per-cent. solution of arecoline hydrobromide whenever he has had occasion to reduce the ocular tension. The instillation of a single drop of this solution gives rise to a burning sensation with lacrymation and blepharospasm, but these unpleasant results last no more than a minute; after them there are conjunctival hyperæmia with slight circumcorneal injection, but these, too, subside in a few minutes. At the end of two minutes clonic contractions of the iris occur, with diminution of the size of the pupil. The meiosis lasts for about half an hour at the utmost, and then the pupil gradually resumes its former size. The solution keeps well, retaining all its physiological properties for a year.

The Antemetic Properties of Iceland Moss.—Degny and Bricemaret (*Journal des praticiens; Annali di farmacoterapia e chimica*, April), in making use of a tincture of this drug on account of its nutrient, demulcent, and bitter tonic properties in cases of gastric disturbance, find that it possesses marked antemetic properties. From thirty to fifty drops are administered in a little Seltzer water. The drug does not seem to have any effect on hysterical vomiting, and the authors have not as yet had occasion to use it in the vomiting of pregnancy.

Richter's Ointment for Psoriasis.—The formula is given as follows in the *Gazette hebdomadaire de médecine et de chirurgie* for May 1st:

℞	Ichthyol, Salicylic acid, Pyrogallic acid, each	3 parts;
	Olive oil, Lanolin, each	10 "

M.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
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NEW YORK, SATURDAY, MAY 21, 1898.

THE DENVER MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

As the time approaches for any annual meeting of the association speculation is rife as to how the meeting is destined to compare with those that have gone before it. And it is nothing more than speculation as a rule, so numerous and so diverse are the chance elements that go to make an affair of the kind profitable and enjoyable. One may base his forecast in part on the locality in which the meeting is to be held, and in part on each one of a multitude of other considerations. If it is measurably justified by the event from his own point of view, there is the cheerful uncertainty lest it may appear to his neighbor to have been proved utterly fallacious. There are many things besides the proceedings that have to be taken into account when an individual sums up for himself the features that have made the occasion one that he looks back upon with satisfaction or with regret, as the case may be. But the proceedings themselves figure largely in the matter.

If the president, Surgeon-General Sternberg, of the army, is able to be present through the meeting or any considerable part of it—and it is to be feared there may be some doubt on that score, in view of the unusual demands of the service on his time at present—the attention of the general meeting, we may presume, will be given in considerable degree to military medicine. There will certainly be many present who will bring with them vivid remembrances of medical service in either the Federal or the Confederate camp, and the thought that will occur to these men most forcibly, we venture to say, will be that of thankfulness that the war on which we have now entered is not of the kind to suspend the association's career. Their memories of service in the civil war are sure to be turned to good account in the meeting's deliberations over questions affecting the conduct of the medical corps in Cuba, the Philippines, or any other region that our forces are likely to enter. Even those of them who were not very young men in the early sixties are by no means superannuated now, and they may be depended on to give such counsels as only veterans can give.

The feeling is entertained by some men who are generally well informed about such matters that the Denver meeting will witness the final healing of the breach between the association and the Medical Society of the State of New York, or at least the laying of the foundation of a basis on which a reconciliation may speedily be reared. We know not on what facts this feeling may be founded, or in what way it is supposed that the result desired by everybody may be reached, but we earnestly hope that the premonition will prove to have rested upon something substantial. This much, we think, may safely be said—that whoever lifts his voice in the meeting with the purpose of contributing toward a restoration of cordial relations between the two organizations will suffer no impairment of repute, but rather gain for himself the approval of the profession throughout the country.

As regards the social aspect of the occasion, which always counts for a great deal, our Denver friends may be relied on to make it a bright one, one that towns in which the association may meet subsequently will be put to their mettle to emulate. We look to see the Denver meeting prove eminently satisfactory.

"ECLAMPSISM," OR PUERPERAL ECLAMPSIA WITHOUT CONVULSIONS.

At a recent meeting of the Obstetrical Society of France there was an interesting discussion on a condition that M. Bar proposes to call *éclampsisme.* In eclampsia, says Bar, the occurrence of convulsions is a capital feature, and it aggravates the prognosis very decidedly, but what needs to be made known is the fact that there are a good many cases in which no convulsions take place, but instead the patient is attacked by very intense neuralgia, mania, diarrhœa, or some other striking symptom. Such cases may prove fatal, and that speedily. M. Bar seems to have been the first to take cognizance of this condition, but his remarks on the occasion in question were called forth by the histories of two cases reported at the meeting by M. Budin (*Progrès médical,* April 30th).

M. Budin's first case was that of a primipara, thirty-one years old, who had arrived at term and was brought to the Maternity on December 16, 1897. She had prodromes of eclampsia and there was a notable amount of albumin in her urine. She also had gastralgia, headache, disturbances of vision, and a cerebral condition which M. Budin simply called "singular," without describing it. She was delivered spontaneously of a living child, and the delivery was followed by hæmorrhage which, although the amount of blood lost did not exceed twenty-five ounces, called for artificial removal of the placenta. After this the prodromes of eclampsia became more pronounced, her general condition grew worse, and, in spite of every care, she died in seven hours, without having had a convulsion. At the post-mortem examination the characteristic renal lesions were found, and the liver presented ecchymotic spots having the geographical contours seen in cases of eclampsia.

The second patient also was a primipara who continually had "oppression." At the time of her entering the Clinique Tarnier, on March 15th, she had albumin in the urine, visual disturbances, etc. She was considered to be in imminent danger of eclampsia, and was treated accordingly. She was delivered a week later, without having had a convulsion, although at every instant one was expected to occur. The placenta showed patches of atrophy and numerous hæmorrhages, some old and others recent. This woman recovered.

It is of very great importance, says M. Budin, to observe the premonitory symptoms of eclampsia. Patients may have self-intoxication, he continues, and be found in a real state of eclampsia, without having any convulsive attack. Formerly, he adds, convulsive seizures were looked upon as the characteristic mark of eclampsia; they are still the cardinal feature in the majority of cases, but they are only one among numerous symptoms of self-intoxication; they are the most striking, but the others should not be overlooked, either from the diagnostic or from the therapeutical point of view.

An interesting contribution to the casuistics of the condition was made by M. Démelin, who related the case of a woman who had all the premonitory symptoms of eclampsia, but no convulsions. Jaundice soon supervened, however, with hæmaturia and hæmorrhage from the nose and the gums, so that the diagnosis of icterus gravis was made. The jaundice and the hæmorrhages ceased at the same time, and the patient recovered.

We can hardly doubt that M. Bar has drawn attention to a phase of the perils of childbirth which, if it has not been altogether overlooked heretofore, has at least not been generally appreciated. By so doing he has certainly performed a service far greater than that resulting from most of the new operations that are invented in such profusion.

MINOR PARAGRAPHS.

THE TREATMENT OF APPENDICULAR INFLAMMATION.

In a leading article in the *Canadian Journal of Medicine and Surgery* for April, 1898 (*Medical Review of Reviews,* April 25th), it is stated that in all the discussions on "appendicitis" which fill the pages of the medical journals physicians seem to forget that sometimes a well-conducted medical treatment may also yield in a good many cases very valuable results, and reference is made to Professor Biermer's statistics, which show cures in ninety-eight per cent. of cases. The treatment outlined is orthodox enough from a physician's standpoint and by no means new, being, in fact, the ordinary one of enforcement of complete rest even for urination and defæcation, iced compresses or lukewarm fomentations or linseed poultices, according to indications, and the continuous administration of opium or morphine (fifteen to twenty drops of laudanum or a quarter of a grain of morphine, three or four times a day, the dose of the drug being decreased as the symptoms lessen). A strictly liquid diet to secure immobilization of the intestine, the sucking of ice to quench thirst and check vomiting, and no enema or aperient until after the first *voluntary* stool, which ordinarily occurs from four to nine days after the attack. Close watching during convalescence and the use of a special diet are called for, while "during one or two years" the patient is to carry about a phial of laudanum and take one or two drops in case of colic. And this method is to be instituted as soon as "appendicitis" is diagnosticated or even suspected. Now, no surgeon, probably, will deny that by such methods a first attack of the disease may be more or less frequently aborted. But, to say nothing of the possibility of inducing the opium habit, what shall we say of such a method with regard to the question of recurrence? If Professor Biermer or the editor of the *Canadian Journal* should one day find a lighted fuse near the basement of his house, and on tracing it up should discover that it led to a quantity of an explosive in his cellar, would he content himself with stamping on the fuse until it appeared to be extinguished, and then leave it and the explosive *in situ?*

THE RIGHT TO PRACTICE.

The New York State legislature has a bill before it to open the door to the quackery of osteopathy, while, on the other hand, there is on its statute book a law which prevents physicians of good standing and reputation from beginning practice within its borders without submitting to re-examination, no matter how reputable their diplomas or how distinguished themselves in their craft. Now the *principle* of a community protecting itself against incompetent practitioners by the imposition of a State examination is a good one, for it does not at all follow that the owner of a diploma granted many years ago is a competent practitioner at the present day, to say nothing of the fact that there are diplomas and diplomas. But, in our judgment, the examination ought to be purely technical—viz., in medicine, surgery, and obstetrics, including a reasonable elementary knowledge of their well-established special subdivisions—*e. g.*, dermatology, ophthalmology, laryngology, gynæcology, and *surgical* anatomy. Ordinary descriptive anatomy, chemistry, and so forth, which are very proper requirements for the training of a student, are totally unsuitable for an examination of this character, the subjects of which should be such only as every ordinary practitioner is expected to be familiar with for his own practical work, and the reading up of which, should he find himself a little "rusty" therein, is in the direct line of his daily round. We suspect that it would not be a very difficult matter to frame an examination, and that without transcending the ordinary limits of what would be fair to a body of students seeking their diplomas, which should effectually exclude such men as Dr. Nicholas Senn, Dr. Howard Kelly, Dr. William Osler, and most others of "light and leading," from the right to practise in this State of New York, unless they dropped their present useful careers for a while and went to school again.

THE CUBAN EXPEDITION IN THE LIGHT OF THE ENGLISH OCCUPATION OF CYPRUS.

The *Lancet* for May 7th, in an article on the Spanish-American War, points out that the disembarkation of a large military force is a difficult and a formidable undertaking, especially when it has to be suddenly thrown on the lowlands of an unhealthy coast at the beginning of the worst season of the year. When, years ago, England for pressing political reasons disembarked a small force for the occupation of Cyprus, which force it must be remembered consisted of seasoned soldiers inured to every kind of climatic condition, a large amount of sickness from climatic fever followed for a time in the regiments encamped there, and, as the *Lancet* says, it is only to be expected that a force landed in Cuba will undergo a similar but far worse experience. Too many persons, we would point out, because they happen to know of individuals who have gone to and fro or have lived in Cuba during the unhealthy season without harm, depreciate this danger; but they forget that it is one thing to go or to live there individually under the ordinary conditions of civilized life, and quite another thing to do so in masses under the debilitating conditions of excessive fatigue, exertion, mental excitement, and the inevitable hardships of campaigning. One encouragement, however, may be gathered from the *Lancet's* note—viz., as to the benefits which may be expected ultimately to accrue from the expedition. We are told that this dreaded Cyprus is now one of the most healthy of England's foreign stations. There can be little room for doubt that a similar result will follow the military occupation of Cuba by the United States, to the great benefit not only of Cuba itself, but of the world in general, and the Gulf States of this country in particular.

THE LAY PRESS AND PROFESSIONAL SECRECY.

We read in so highly reputable a paper as the *New York Tribune* for the 15th inst. that a certain actress recently returned to Bellevue Hospital suffering from neurasthenia, "said by the physicians to be due to alcoholism." We can not for one moment believe that the physicians at Bellevue Hospital were guilty of any such gross dereliction of duty as to say publicly anything at all about what might be the matter with their patient. The American press, generally, supported the medical press in its uniform approval of the English jury that some twelve months ago awarded a patient thirty-six thousand dollars damages against a leading physician for betraying professional confidence, and strongly upheld the platform that knowledge gained by the physician in the discharge of his duty should be held inviolable. Are we to understand that with the press principles hold good only when it suits the newsmonger's purpose? While an intelligent study of passing events of public interest is one of the greatest factors in the development of a nation, the incessant and growing clamor for so-called "news," meaning thereby mere gossip concerning things which are of no real public interest apart from a morbid and prurient curiosity, indicates rather a danger of degeneracy than a promise of progress, and should be as far as possible discouraged rather than pandered to by all reputable papers.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 14, 1898:

DISEASES.	Week ending May 7.		Week ending May 14.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	15	6	10	4
Scarlet fever	229	19	244	26
Cerebro-spinal meningitis	0	9	0	4
Measles	399	20	500	17
Diphtheria	190	35	202	37
Croup	18	3	14	8
Tuberculosis	148	103	189	168

Therapeutic Suggestion during Ordinary Sleep.—Dr. S. Herbert Britton (*Canadian Journal of Medicine and Surgery*, May) says: I noticed not long ago that Mr. Flower seems to have no doubt, judging by an article of his in his magazine, that the time to educate children against bad habits, and in fact to carry on a great part of their instruction, is while they are *asleep*. This was a new idea to me, but I resolved to try it at my first opportunity. My little three-year-old daughter had, since an attack of whooping-cough, a most troublesome incontinence of urine. We gave her drugs, implored her, punished her, and did all that we could to cure her; everything was useless. I had decided that time alone would cure her, but after reading Mr. Flower's article on the education of children during their sleep, I took courage. I talked to her during a quiet sleep, and suggested "—— will not wet herself any more." I repeated this in her ear very distinctly, and said it over and over. I also suggested that she would not wet the bed any more. I told her how sorry her mamma and papa were when she did it, etc. Now, it must be remembered that this habit was so bad that the child was at no time in the day presentable when any one wanted to see her. Her mother was invariably compelled to see to her clothes before allowing her to see visitors. I was therefore very much astonished to notice soon after the first treatment that she did not repeat the soiling of her clothes. "But," I said, "it must be a coincidence," and I let the matter drop for that time. The freedom from enuresis continued from day to day, and I, of course, continued my treatment at intervals, and must say that it is now over two weeks since she has been troubled in the least. Here was an instantaneous and complete cure.

Philadelphia will Correct the Hospital Evil.—Definite steps have been taken by prominent Philadelphia physicians to eradicate the evil of hospital abuse. At a recent meeting called for this purpose at the College of Physicians about a hundred gentlemen attended. Judge William N. Ashman presided.

The object of the meeting was stated by Dr. Edward Jackson, who gave accounts of similar meetings being held in New York, Boston, and other large cities. Several physicians present then spoke of the flagrant manner in which the abuse occurred. Judge Ashman, addressing the session, stated that in his opinion the worst effect of the abuse lay in the demoralization of the public conscience, giving rise to pauperization, and suggested as a remedy that patients should be made to make a statement of their means and resources. He thought a new statute would be required to make falsehoods punishable by law.

The following committee was then appointed to push the matter: Dr. John Ashhurst, Dr. John B. Roberts, Dr. D. Risley, and Professor Charles Frese.

The Jefferson Medical College, of Philadelphia.—Plans have been accepted for a new building for the college to be built at the northwest corner of Tenth and Walnut Streets. The building will be in the Italian renaissance style, five stories high, extending 118 feet from east to west and 107 feet from north to south. On the first floor there will be, besides offices, the library, laboratory, professors' rooms, and an amphitheatre accommodating 420 students. On the second floor there will be the museum, the pharmaceutical laboratory, and a room for experimental therapeutics. On the third floor there will be laboratories and rooms for chemicals. The fourth floor will contain rooms for obstetrical bandaging and for demonstrations of pathology. The fifth floor will be provided with an amphitheatre seating 520 students. This floor will also include the dissecting room and incinerating room.

The Wills Eye Hospital, Philadelphia.—By the resignation of Dr. Edward Jackson, a vacancy occurred recently on the staff of this hospital, and Dr. P. W. K. Schwenk has been elected to fill it.

A Congress of Hydrology, Climatology, and Geology.—We learn from the *Lancet* for May 7th that the fifth International Congress of Hydrology, Climatology, and Geology will be held at Liège from September 25th to October 3d, this city being selected on account of its proximity to the principal Belgian mineral springs (Spa, Chaudfontaine, etc.), rendering it easy for members to visit those localities. There will be many other excursions to various places of interest, such as Verviers, Ostend, Aix-la-Chapelle, etc.

Oophorectomy for "Inoperable" Breast Cancer.—Mr. Watson Cheyne (*British Medical Journal*, May 7th) records two cases in which, in consequence of Beatson's remarkable case, he performed oophorectomy on patients in whom the extensive infiltration of cancer in the breast rendered its removal impracticable. In the first case distinct improvement seemed to ensue and continued for some months. About eight months later, however, the case took on a bad turn and has continued to progress. The other case, however, did not show any improvement to speak of, and the patient died about five months later.

Warty Growths on the Back of the Right Hand in Tuberculous Subjects.—M. A. Béclère (*Lancet*, May 7th) drew attention, in a recent communication to the Hospitals Medical Society, of Paris, to the frequency of warty growths on the back of the right hand in tuberculous subjects, and suggested as a probable explanation the habit of wiping the mustache and lips with that hand. The only instance in which he had found a similar wart on the left hand was in the case of a left-handed man.

Changes of Address.—Dr. Perry S. Boynton, to No. 105 West Seventy-seventh Street, New York; Dr. C. M. Brown, to No. 209 Gorton Street, Buffalo; Dr. Edwin M. Cox, to No. 38 West Thirty-fourth Street, New York; Dr. J. Freedman, to No. 215 West One hundred and thirty-third Street, New York; Dr. A. W. Lyndon Jackson, to No. 149 East Thirty-ninth Street, New York; Dr. Alexander B. Johnson, to No. 12 East Fifty-eighth Street, New York; Dr. J. Monroe Liebermann, to No. 76 West Eighty-second Street, New York; Dr. J. F. McCann, to No. 166 East Ninetieth Street, New York; Dr. Samuel Stern, to No. 309 East Fourth Street, New York; Dr. Arthur S. Tenner, to No. 251 West One hundred and twenty-second Street, New York; Dr. Walter Timme, to No. 102 West Eighty-fifth Street, New York; Dr. Fenton B. Turck, to No. 362 Dearborn Avenue, Chicago; Dr. Hiram N. Vineberg, to No. 751 Madison Avenue, New York; Dr. Charles H. Walker, to No. 105 West Seventy-seventh Street, New York.

The Pharmacologist.—This new periodical, which is a quarterly journal devoted principally to the study of drugs from a medical standpoint, comes to us in its third number. It is edited by J. O. Schlotterbeck, Ph. D., and contains some very excellent matter. The following is a list of the contents: A Study of Stramonium, Illustrated, by J. O. Schlotterbeck, Ph. D., and A. Van Zwaluwenburg, Ph. C.; Friability is not Solubility, Illustrated, A Further Investigation of the Pill Question, by Charles C. Sherrard, Ph. C., B. S.; and Strophanthus, its Source, Physiological Action, Therapeutics, and Administration, by Charles C. Yarbrough, M. D. Papers on The Causation of Chloroform Syncope and What Constitutes a Cardiac Tonic? are selected for reproduction or comment. There are leading articles on The Decadence of Drug Therapy, One Kind of Medical Journalism, A Plea for the Metric System, An Imaginary Danger, and several minor matters; book notices; therapeutic brevities, etc. We naturally turned, from its title, to the brightly written article on One Kind of Medical Journalism, and found it full of good practical common sense and of views on the ethics of professional journalism which are worthy of all credit and support. We can not do better than quote the concluding paragraph of this article: "After all, perhaps these journals have their place: it is rumored that the output of nostrum almanacs is to be curtailed somewhat this year, and if that be true the supply of waste paper for domestic uses, such as starting fires, etc., will have to be made up in some other way; these advertising sheets masquerading as medical journals, and thus obtaining the benefit of pound rates of postage, will do as well as anything else to make up the deficit." The *Pharmacologist* is published quarterly in Detroit, at 25 cents per annum.

Medical Society of City Hospital Alumni, of St. Louis.—At the last regular meeting, on Thursday evening, the 19th inst., the following papers were presented for discussion: A Report on Eight Hundred Cases of Labor, by Dr. H. S. Crossen; A Report of Two Cases of Fibroids, by Dr. Mary H. McLean; A Report of Three Cases of Puerperal Fever Treated with Antistreptococcic Serum, by Dr. E. W. Sanders; A Report of an Unusual Case of Cancer of the Stomach, by Dr. Albert E. Taussig; and A Clinical History of a Case of Hæmorrhage into the Pons, by Dr. Louis Drechsler, of St. Louis.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 14th inst., Dr. Otto Sutter was to present a number of cases illustrating brain surgery.

The Richmond Academy of Medicine and Surgery.—At the last regular meeting, on Tuesday evening, the 10th inst., Dr. M. W. Peyser was to open the discussion on Benzosol in the Treatment of Respiratory Affections.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 8 to May 14, 1898:*

Burgess, Maynard G., Acting Assistant Surgeon, United States army, will proceed from this city to Mobile, Alabama, and report in person to the commanding general of the troops at that place for duty.

Comegys, Edward T., Major and Surgeon, is relieved from duty at Fort Sill, Oklahoma Territory, and will report in person to Brooke, John R., Major General, commanding provisional corps, Camp George H. Thomas, Chickamauga National Park, Georgia, for assignment to duty as acting medical purveyor for the supply of troops stationed at that point.

Cutter, Charles K., Acting Assistant Surgeon, United States army, now on duty at Boston, is assigned to duty as assistant to the attending surgeon and examiner of recruits in that city.

Dewey, Frederick S., Acting Assistant Surgeon, United States army, will proceed from Oklahoma City, Oklahoma Territory, to Fort Sill, Oklahoma Territory, and report in person to the commanding officer of that post for duty.

Disney, F. A. E., Acting Assistant Surgeon, United States army, will proceed from Washington to Fort Jefferson, Florida, and report to the commanding officer of that post for duty.

Jackson, H. P., Acting Assistant Surgeon, United States army, will proceed from Charleston, South Carolina, to Key West, Florida, and report in person to Hall, William R., Major and Surgeon, in charge of the general hospital at that place, for duty.

Lawrence, W. P., Acting Assistant Surgeon, United States army, is assigned to duty with Light Battery B, Fourth Artillery, Port Tampa, Florida.

De la Torre, G. M., Acting Assistant Surgeon, United States army, is assigned to duty with the Tenth Infantry, Tampa, Florida.

Metcalfe, Francis, Acting Assistant Surgeon, United States army, will proceed from Washington to New York city and report in person to Torney, George H., Major and Surgeon, in charge of the hospital ship, for duty.

Moseley, Edward B., Major and Surgeon, is relieved from duty at Benicia Barracks, California, and ordered to the Presidio of California, relieving White, Robert H., Major and Surgeon. Major White, on being thus relieved, will report in person to the commanding general of the expedition to the Philippine Islands for duty as chief surgeon.

Myers, Randolph M., Acting Assistant Surgeon, United States army, will proceed from Washington to New York city and report in person to Torney, George H., Major and Surgeon, in charge of the hospital ship, for duty.

Patterson, Edwin W., Acting Assistant Surgeon, United States army, will proceed from Washington to Atlanta, Georgia, and report in person to Taylor, Blair D., Major and Surgeon, in charge of the general hospital, Fort McPherson, Georgia, for duty at that place.

Turnbull, Wilfrid, Acting Assistant Surgeon, United States army, will proceed from Washington to Key West, Florida, and report in person to the commanding officer, Company E, Battalion of Engineers, for duty at that place.

Vanderveer, Edgar A., Acting Assistant Surgeon, United States army, will proceed from Washington to Atlanta, Georgia, and report in person to Taylor, Blair D., Major and Surgeon, in charge of the general hospital, Fort McPherson, Georgia, for duty at that place.

Williamson, Llewellyn P., Acting Assistant Surgeon, United States army, will proceed from Washington to New York city and report in person to Torney, George H., Major and Surgeon, in charge of the hospital ship, for duty.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Fourteen Days ending May 12, 1898:*

Peckham, C. T., Passed Assistant Surgeon. Granted one day's extension of leave of absence. May 4, 1898.

Vaughan, G. T., Passed Assistant Surgeon. Granted leave of absence for six days from May 9, 1898. May 7, 1898.

Stimpson, W. G., Passed Assistant Surgeon. Granted leave of absence for seven days from May 17, 1898. May 11, 1898.

Eager, J. M., Passed Assistant Surgeon. Upon being relieved by Assistant Surgeon A. R. Thomas, to proceed to Galveston, Texas, and assume command of service. May 12, 1898.

Thomas, A. R., Assistant Surgeon. Upon being relieved by Assistant Surgeon S. B. Grubbs, to proceed to Cape Fear Quarantine, Southport, N. C., and assume command. May 12, 1898.

Cumming, H. S., Assistant Surgeon. To report at immigration depot, New York, for duty. May 12, 1898.

Grubbs, S. B., Assistant Surgeon. Relieved from duty at New York, and to proceed to Reedy Island Quarantine and report to commanding officer for duty and assignment to quarters. May 12, 1898.

Russell, H. C., Assistant Surgeon. To proceed to Chicago, Ill., and report to commanding officer for duty and assignment to quarters. May 6, 1898.

Board Convened.

Board convened to meet at Washington, D. C., May 10, 1898, at 10 o'clock A. M., for the physical examination of an officer of the Revenue-Cutter Service. Surgeon P. H. Bailhache, chairman; Surgeon George Purviance, and Surgeon H. W. Austin, recorder.

Society Meetings for the Coming Week:

Monday, *May 23d:* Medical Society of the County of New York; Lawrence, Massachusetts, Medical Club (private); Cambridge, Massachusetts, Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *May 24th:* American Gynæcological Society (first day—Boston); New York Dermatological Society; Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); Richmond, Virginia, Academy of Medicine and Surgery.

Wednesday, *May 25th:* Connecticut Medical Society (first day—New Haven); Medical Association of Montana (first day—Missoula); North Dakota Medical Society (first day—Jamestown); American Gynæcological Society (second day); New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Auburn, N. Y., City Medical Association; Medical Societies of the Counties of Albany, Monroe (annual —Rochester), and Tompkins (annual), N. Y.; Berkshire, Massachusetts, District Medical Society (Pittsfield); Philadelphia County Medical Society.

Thursday, *May 26th:* Connecticut Medical Society (second day); Medical Association of Montana (second day); North Dakota Medical Society (second day); New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Society for Neurology; Roxbury, Massachusetts, Society for Medical Improvement (private); Pathological Society of Philadelphia.

Friday, *May 27th:* New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *May 28th:* New York Medical and Surgical Society (private).

Births, Marriages, and Deaths.

Born.

Cudworth.—In Milwaukee, on Friday, May 6th, to Dr. and Mrs. W. H. Cudworth, a son.

Married.

Boorse—Leberman.—In Milwaukee, on Tuesday, May 10th, Dr. Lorenzo Boorse and Miss Annie Margaret Leberman.

Fox—Walters.—In Oregon, Wisconsin, on Tuesday, May 10th, Dr. Paul Allen Fox, of Janesville, Wisconsin, and Miss Lillie Walters.

Guerin—Bezou.—In New Orleans, on Tuesday, May 10th, Mr. Morinville J. Guerin, Jr., and Miss Emilie Bezou, daughter of Dr. Henry Bezou.

Lewis—Burton.—In New Orleans, on Thursday, May 12th, Dr. James Leon Lewis, of Dallas, Texas, and Miss Emily Massey Burton.

McBride — Williams. — At Powhattan Plantation, Terrebonne Parish, Louisiana, on Thursday, May 12th, Dr. Robert Edwin McBride, of Thibodeaux, Louisiana, and Miss Genevieve Edmondson Williams.

Died.

Brown.—In Washington, on Sunday, May 1st, Mabel F. Brown, daughter of Dr. Charles W. Brown.

Gravatt.—In Troy, N. Y., on Tuesday, May 10th, Edna R. Gravatt, daughter of Dr. Edwin J. Gravatt, in the second year of her age.

Ramsey.—In Scotia, South Carolina, on Friday, May 13th, Dr. G. R. Ramsey.

Southard.—In Newark, N. J., on Saturday, May 14th, Dr. Lott Southard, in the seventy-second year of his age.

Book Notices.

"Cataphoresis," or Electric Medicamental Diffusion, as Applied in Medicine, Surgery, and Dentistry. By Williams James Morton, M. D., Professor of Diseases of the Mind and Nervous System and of Electro-therapeutics in the New York Post-graduate Medical School and Hospital, etc. New York: American Technical Book Company, 1898. Pp. 4 to 267.

This book is based upon a belief in the possibility of introducing medicinal agents into the human body in therapeutic quantities by means of the electrical current. The principal application of this means with which the author concerns himself is the production of local anæsthesia in general surgery and especially in dental surgery.

The treatise is a very complete one, and it is evident that great pains have been taken, both by the author and by his publishers, in its preparation. Part I is historical in character; Part II deals with physics and physiology; Part III is devoted to apparatus; Parts IV and V treat of the applications of this method in general medicine and surgery and in dental surgery, and the book concludes with a chapter on the electrical staining of tissue for microscopical work.

The exact position of electricity among therapeutic agents is an open question. The author seems to recognize this fact, and deplores the scanty supply of clinical data bearing upon the subject of which he writes. But if any means can be found that shall make the dentist's chair less dreadful it will have the hearty support of all mankind. He who brings about this much-desired state of affairs must be regarded as a public benefactor.

The Nervous System and its Diseases. A Practical Treatise on Neurology for the Use of Physicians and Students. By Charles K. Mills, M. D., Professor of Mental Diseases and of Medical Jurisprudence in the University of Pennsylvania, etc. Diseases of the Brain and Cranial Nerves, with a General Introduction of the Study and Treatment of Nervous Diseases. With Four Hundred and Fifty-nine Illustrations. Philadelphia: J. B. Lippincott Company, 1898. Pp. xxx–1056.

This is the most comprehensive treatise on the diseases of the brain and cranial nerves which has appeared in America. It is the author's intention that the present volume shall be followed by another, which shall include the remaining diseases of the nervous system, insanity, and the medical jurisprudence of both nervous and mental diseases.

Completed as such, the work will be of great magnitude, but will be one for which the author has demonstrated his capability in the present volume, as, indeed, he had already done by previous contributions to neurological literature.

The work begins with a consideration of the embryology, anatomy, physiology, and chemistry of the nervous system, which is unusually full and very clearly put.

This is followed by a chapter on generalities, including general pathology and ætiology, symptomatology and methods of investigation, electricity, and general therapeutics.

Then follow, in natural sequence, diseases of the membranes and sinuses, with encephalic malformations and aberrations.

The chapter on brain localization has been prepared with minute care, and contains the most recent accessions to our knowledge of this subject, together with a clear exposition of the author's own well-known views on this subject.

In succeeding chapters, the subjects indicated by the title are treated thoroughly and extensively.

Special mention may be made of the exposition of encephalitis, which is an obscure subject at best, but which is clearly described here, and of the excellence of the method of describing the lesions of the sensorial nerves in accordance with their physiological functions, rather than by following the anatomical arrangement of the nerves themselves.

The nomenclature and terms advocated by Professor Wilder have in the main been adopted by the author. There are thus introduced many unfamiliar and consequently, to many persons, unwelcome words. We are very glad that Dr. Mills has had the courage to adopt this nomenclature and these terms, believing, as we do, in their correctness and in the need of their becoming more generally familiar.

The bibliographical index is full, giving considerable prominence to American authors, and the general index is carefully prepared.

Altogether, the work is an achievement in which American neurologists may take pride.

Introduction to Chemical Methods of Clinical Diagnosis. By Dr. H. Tappeiner, Professor of Pharmacology and Principal of the Pharmacological Institute of the University of Munich. Translated from the Sixth German Edition, with an Appendix on Micro-biological Methods of Diagnosis by Edmond J. McWeeney, M. A., M. D. (Royal Univ. of Ireland), L. R. C. P. I., Professor of Pathology and Bacteriology, C. U. Medical School, etc. London, New York, and Bombay: Longmans, Green, & Co., 1898. Pp. xvi–152.

This little book combines two of the great essentials of a pocket laboratory guide, compactness and a complete and accurate description of the methods to be employed. No attempt is made to discuss the diagnostic importance of any of these methods; the manipulation and its chemical significance only are explained. The less important paragraphs are in fine print, rendering reference to the main facts easier. In short, the book seems to have a single aim and to have reached it. Could there be greater praise?

About half the space is given up to the subject of urinary analysis in all its details. The greater part of the remainder deals with the examination of the blood, giving such prominence to the subject as its growing importance deserves. The examination of the sputum for tubercle bacilli is also spoken of at some length. Throughout the book the details of each manipulation are very minutely described and many practical hints are given.

Doctor and Patient: Hints to Both. By Dr. Robert Gersuny, Director and Principal Visiting Surgeon of the Rudolfinerhaus, Vienna. Translated, with the Permission of the Author, by A. S. Levetus, with a Preface by D. J. Leech, M. D., F. R. C. P., Professor of Pharmacology in the Owens College and Victoria University. Bristol: John Wright & Company. London: Simpkin, Marshall, Hamilton, Kent, & Co., Ltd., 1898. Pp. 5 to 79.

It is not uncommon in these days to find pessimists, both in the medical profession and outside of it, who declare that the practice of medicine is no longer an art; that the press of modern life and the fight for daily bread have reduced the profession to a business; and that the old-time counselor and friend, the family physician, is extinct. In all this there is at least a germ of truth, and the best and surest remedy for such a state of affairs lies in the dissemination of such books as this, full of kindly advice backed by experience. We lay down the book with a feeling of regret that it is so brief, for the topic is full of suggestion and might be greatly enlarged upon with profit. It is a subject whose bibliography is small, but it has more to do with success in practice than abundance of technical knowledge and skill. Moreover, it is a mighty weapon with which to combat the fakir and the quack.

The X Rays. Their Production and Application. By Frederick Strange Kolle, M. D., Radiographer to the Methodist Episcopal Hospital, etc. New York: J. S. Ogilvie Publishing Company, 1898. Pp. viii–11 to 191.

In the past two years a mass of literature on the subject of the X ray has accumulated, some to the enlightenment, but more, we fear, to the confusion of most of us. How many have read of induced currents, coils, condensers, and vacuum tubes, and how few understand what they are and what their relations are to the pictures of coins, finger rings, and bones with which we have been showered!

In Dr. Kolle's little book we have one that seems to offer hope of a way out of this entanglement. Part I, which serves as an introduction, deals with elementary electricity. In it the main facts in regard to the various forms of electricity and of electrical apparatus are set forth. Part II begins with a brief review of the experiments that culminated in the work of Röntgen. The apparatus is next described at length, and full particulars of its practical use are given. The book closes with two chapters on the practical application of the X ray.

The volume is of handy size and written in a very clear and readable style. It will be welcomed by the many who desire a practical knowledge of these wonderful rays.

Lessons in Hypnotism and the Use of Suggestion. Based upon the Neuron Motility Hypothesis. By Leslie J. Meacham. Cincinnati: The Bishop Publishing Company, 1898. Pp. ix–15 to 159.

In this little volume are presented the theory of hypnotism, the methods of inducing hypnosis, and the clinical value of suggestive therapeutics, together with the cautions to be observed in using this form of treatment. The book, which is conservative in tone, will undoubtedly find many purchasers. Against it may be said that the author, as a layman, is hardly qualified to designate the diseases which are to be benefited by suggestion; and in regard to the general subject of the use of hypnotism as a remedial agent it may be emphasized that at the present time we are in need, not of manuals indicating the *modus operandi* of the procedure, but of scientific studies by competent men which shall record the evils that may result from this form of treatment, as well as the benefits which may be shown to accrue to patients who are observed over long periods of time.

BOOKS, ETC., RECEIVED.

Cataphoresis, or Electric Medicamental Diffusion, as Applied in Medicine, Surgery, and Dentistry. By William James Morton, M. D., Professor of Diseases of the Mind and Nervous System and Electro-therapeutics in the New York Post-Graduate Medical School and Hospital, etc. New York: American Technical Book Company, 1898. Pp. 3 to 267. [Price, $4.]

International Clinics: A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynæcology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology, and Specially Prepared Articles on Treatment and Drugs. By Professors and Lecturers in the Leading Medical Colleges of the United States, Germany, Austria, France, Great Britain, and Canada. Edited by Judson Daland, M. D. (University of Pennsylvania), Philadelphia, Instructor in Clinical Medicine and Lecturer on Physical Diagnosis in the University of Pennsylvania, etc.; J. Mitchell Bruce, M. D., F. R. C. P., London, England, Physician to and Lecturer on the Principles and Practice of Medicine in the Charing Cross Hospital; and David W. Finlay, M. D., F. R. C. P., Aberdeen, Scotland, Professor of Practice of Medicine in the University of Aberdeen, etc. Volume I. Eighth Series. 1898. Philadelphia: J. B. Lippincott Company, 1898. Pp. ix–355.

On Maternal Syphilis, including the Presence and Recognition of Syphilitic Pelvic Disease in Women. By John A. Shaw-Mackenzie, M. D. (Lond.). London: J. and A. Churchill. Philadelphia: P. Blakiston, Son, & Co., 1898. Pp. xi–223. [Price, $3.68.]

Traité de chirurgie clinique et opératoire. Publié sous la direction de MM. A. Le Dentu, Professeur de clinique chirurgicale à la Faculté de médecine de Paris, etc., et Pierre Delbet, Professeur agrégé à la Faculté de médecine de Paris, etc. Tome sixième. Bouche, pharynx, œsophage, larynx, trachée, corps thyroïde, cou, poitrine. Par MM. H. Morestin, M. Ganglophe, F. Lubet-Barbon, C. Lyot, J. Arrou, Ch. Souligoux. Avec 107 figures intercalées dans le texte. Paris: J. B. Baillière et fils, 1898. Pp. 948. [Prix, 12 fr.]

Die Säuren der Rindergalle und der Menschengalle. Von Professor Dr. Lassar-Cohen. Hamburg und Leipzig: Leopold Voss, 1898. Pp. 3 to 82.

Praxis der Harnanalyse. Anleitung zur chemischen Untersuchung des Harns. Nebst einem Anhang Analyse des Mageninhalts. Von Professor Dr. Lassar-Cohen Zweite Auflage. Hamburg und Leipzig: Leopold Voss, 1898. Pp. 40.

Twenty-first Annual Report of the Board of Health of the State of New Jersey, and Report of the Bureau of Vital Statistics, 1897.

A Report of the State Board of Health of Massachusetts. Epidemic Cerebro-spinal Meningitis and its Relation to other Forms of Meningitis. 1898.

The Surgery of Tuberculosis of the Peritonæum. By Parker Syms, M. D. [Reprinted from the *Medical Record.*]

Acute Empyema of the Frontal Sinus, with a Report of Cases. By Ralph J. Wenner, M. D., of Cleveland. [Reprinted from the *Cleveland Journal of Medicine.*]

Pulmonary Abscess and Gangrene. By C. F. Withington, M. D., of Boston. [Reprinted from the *Boston Medical and Surgical Journal.*]

The Municipal Control of Milk Supply in Cities and Villages. By W. H. Heath, M. D., of Buffalo. [Reprinted from the *Transactions of the Medical Society of the State of New York.*]

Internal Cerebral Meningitis Chronica. Notes on Diagnosis and Treatment. By Elmore S. Pettyjohn, M. D., of Alma, Michigan. [Reprinted from the *Journal of the American Medical Association.*]

Miscellany.

The Office of Acting Assistant Surgeon in the Marine-Hospital Service.—The United States Civil Service Commission announces that on June 7, 1898, an examination may be taken in any city in the United States where the commission has a competent board of examiners, for the grade of acting assistant surgeon in the Marine-Hospital Service, Treasury Department. There is at present a vacancy in this grade at Chicago, at a salary of one hundred dollars a month, which it is desired to fill. In filling this vacancy preference will be given to eligible persons who are legal residents of Chicago or its vicinity. From this register future vacancies will be filled by selections from eligible persons who are legal residents of the cities or the vicinity where vacancies occur. Applicants for this position must be at least twenty years of age, must be competent physicians and surgeons, graduates of reputable medical colleges, and must furnish satisfactory certificates relative to their moral character and professional capacity.

The examination will be in the subjects named below, which will be weighted as follows:

Letter writing	5
Anatomy and physiology	15
Chemistry, materia medica, and therapeutics	10
Theory and practice of medicine and general pathology	25
Surgery and surgical pathology	20
Bacteriology and hygiene	10
Obstetrics and gynæcology	15
Total	100

This examination is open to all reputable citizens of the United States who may desire to enter the service and who comply with the requirements, without regard to race or to their political or religious affiliations. All such citizens are invited to apply. They shall be examined, graded, and certified with entire impartiality and wholly without regard to any consideration save their ability as shown by the grade they attain in the examination. Persons desiring to enter for this examination should at once write to the United States Civil Service Commission, Washington, D. C., for application blanks, Forms 304 and 375, which should be properly executed and promptly forwarded to the commission.

The American Surgical Association.—At the thirty-ninth annual meeting (*Journal of the American Medical Association*, May 7th), held in New Orleans from April 19th to 21st inclusive, Chicago was fixed upon as the next place of meeting, at a date to be subsequently decided. Officers were elected for the ensuing year as follows: President, Dr. W. W. Keen, of Philadelphia; vice-presidents, Dr. A. Vanderveer, of Albany, and Dr. C. H. Mastin, of Mobile; secretary, Dr. H. L. Burrell, of Boston; recorder, Dr. De Forest Willard, of Philadelphia; treasurer, Dr. G. R. Fowler, of Brooklyn; delegate to the Association of American Physicians and Surgeons, Dr. W. M. Mastin, of Mobile; alternate delegate, Dr. F. H. Gerrish, of Portland, Maine.

The Organisms of Malarial Fevers.—Messrs. McKesson & Robbins, of New York, announce that at the annual meeting of the American Medical Association, in Denver, they will exhibit a series of water-color drawings illustrating the life history of the various organisms which cause malarial fevers. These drawings will represent a magnification of the parasites of twenty thousand diameters.

Christian Science, Q.E.D.—Mrs. Fadde, faith-curist: "How is your grandfather this morning, Bridget?"

Bridget: "He still has the rheumatism mighty bad, mum."

"You mean he thinks he has the rheumatism. There is no such thing as rheumatism."

"Yes, mum."

A few days later.

"And does your grandfather still persist in his delusion that he has the rheumatism?"

"No, mum; the poor man thinks now thot he is dead. We buried um yisterday."—*Indianapolis Journal.*

The Jefferson County (Kentucky) Board of Health met recently in Louisville, at the office of Dr. W. H. Wathen, the referee of the State board of health for the county, and organized by the election of the following officers: Dr. George W. Griffiths, president; Dr. J. M. Krim, secretary; Dr. B. M. Smock, sanitary inspector. The board has adopted the rules and regulations of the State board and as now organized has, under the statutes of the State, full authority to abate nuisances or all conditions prejudicial to the health and happiness of the people, and to enforce regulations in the interest of health and the prevention of disease, such as vaccination, etc.

To Cleanse Hypodermic Needles.—Dr. R. E. L. Barnum (*Atlanta Medical and Surgical Journal; Medical Review of Reviews,* April 25th) says that obstructed needles can almost invariably be cleansed by filling the syringe with water, screwing on the needle, and holding the needle at the point of obstruction for a moment in the flame of an alcohol or other lamp, when the steam will expel the offending substance, and expulsion of the water cool the needle. This proceeding is said not to damage the needle. Besides, an obstructed needle is useless anyway.

Entire Removal of the Upper Extremity for Cancer recurring after Extirpation of the Breast.—Dr. C. T. Dent related to the Royal Medical and Chirurgical Society of London on March 8th (*Revista de Medicina y Cirurgía Prácticas,* April 28th) the case of a woman, fifty-three years of age, whose left breast was extirpated in December, 1894, for a scirrhus observed about two years. The axillary glands which were infected were removed at the same time. In September, 1896, a recurrent nodule in the neighborhood of the cicatrix was removed, which proved to be fusiform cancer without commencing transition to the round-celled form. A recurrent neoplasm in the axilla led to the amputation of the arm, the scapula, and the outer two thirds of the clavicle after Paul Berger's method. The subclavian artery and vein and the scapular arteries were tied. Although hæmorrhage was profuse, the patient was not collapsed. The recovery was rapid, and the patient was discharged from St. George's Hospital in twenty-six days. The growth involved the axillary artery and veins and the brachial plexus.

Physicians Exonerated from a Charge of Incompetency.—At an inquest (*New York Tribune,* May 14th) held on the 13th inst. by Coroner Fitzpatrick on a man, aged fifty, who died in the Roosevelt Hospital, Dr. McNelder and Dr. Le Britton, who had certified that the patient died of a fracture of the skull, were exonerated from charges of incompetency brought against them by the deceased's brother, Dr. J. Dowling Trask, whose assertion that death was due to meningitis was disproved by the autopsy.

The Red Cross Benefit at the Health Exhibition.—On the 14th inst. (*New York Tribune,* May 15th) Mr. Andrew H. Green presided at a benefit to the Red Cross Society given by the Health Exhibition in the Grand Central Palace. Mr. Chauncey M. Depew told the history of the Geneva convention and the rise and progress of the Red Cross Society. He paid a tribute to the bravery of the Spaniards at Manila, who, if they did not know how to fight, at least knew how to die, and added: "If the Red Cross had been aboard these ships many a gallant man might have been saved, as all gallant men should be saved after the battle is over.' There was a good attendance, the boxes and upper galleries being crowded.

The Control of Sex: Schenk's Theory.—According to an advance notice of Professor Schenk's forthcoming book (*Daily News,* London; *New York Tribune,* May 15th), the much-vaunted discovery lies in the fact that the quantity of sugar secreted by the mother's system in normal conditions is the all-important factor in controlling sex. When there is no sugar secreted, not even the smallest quantity, then a male child will be brought forth. The treatment consists in ascertaining in each particular case, preferably before conception, what food best produces the disappearance of even a trace of sugar.

The Hospital Graduates' Club will hold its annual dinner on Thursday evening, May 26th, at seven o'clock, at the Union Square Hotel.

The American Laryngological Association.—Among the social accessories of the annual meeting held in Brooklyn this week was a reception by Dr. and Mrs. Thomas R. French on Monday evening.

The American Gynæcological Society.—The twenty-third annual meeting will be held in Boston on May 24th, 25th, and 26th, under the presidency of Dr. Paul F. Mundé. Besides the president's address, the programme includes the following papers: Congenital Pelvic Kidneys Obstructing the Parturient Canal, with a Report of a Case of Vaginal Nephrectomy, by Dr. Edwin B. Cragin; Hernia of the Ovary, with a Report of Two Cases Cured by Laparotomy, by Dr. Bernard Browne, of Baltimore; Cases of Pregnancy following Ventrofixation, and Improvements in the Technique of the Operation, by Dr. A. Lapthorn Smith, of Montreal; Bacteria of the Vagina and their Practical Significance, based upon the Examination of the Vaginal Secretion of One Hundred Pregnant Women, by Dr. J. Whitridge Williams, of Baltimore; Surgery of the Uterus and Annexa per Vaginam, by Dr. W. H. Wathen, of Louisville; The Treatment through the Posterior Vaginal Cul-de-sac of Adherent Uteri, by Dr. William R. Pryor; The Porro Operation, or Complete Extirpation of the Uterus? by Dr. Herman J. Boldt; The History of the Early Operations for Fibroid Tumors of the Uterus, by Dr. Charles P. Noble, of Philadelphia; The Indications for Partial and Total Hysterectomy *via* Abdominal and Vaginal Routes, by Dr. E. W. Cushing, of Boston; The Treatment of Myomatous Uteri, by Dr. Howard A. Kelly, of Baltimore; The Patency of the Stump after Salpingectomy, by Dr. J. Wesley Bovée, of Washington; Conservative Operations upon the Uterine Appendages, by Dr. A. Palmer Dudley; Limitations of Conservatism in the Surgery of the Tubes and Ovaries, by Dr. Henry C. Coe; Observations in Regard to General Anæsthesia, especially by the Schleich Mixtures, by Dr. Henry J. Garrigues; The Results of Nephropexy for Movable Kidney, by Dr. George M. Edebohls; Removal by Abdominal Incision of the Remains of an Extra-uterine Fœtation of Fourteen Years' Duration—The Methods of Choice for the Removal of Hairpins from the Bladder in Women, by Dr. Andrew F. Currier; A Case of Abnormally Displaced Ovaries, Rudimentary Uterus, and Absence of Vagina, by Dr. Hiram N. Vineberg; and A Case of Endothelioma Lymphangiomatodes of the Cervix Uteri, by Dr. Hunter Robb, of Cleveland.

In Memoriam: Dr. William T. Lusk, by Dr. Thaddeus A. Reamy, of Cincinnati; Dr. Cornelius Kollock, by Dr. Richard B. Maury, of Memphis; Dr. J. Braxton Hicks, by Dr. Paul F. Mundé; Dr. S. Tarnier, by Dr. M. Charpentier, of Paris; Dr. Theophilus Parvin, by Dr. William H. Parish, of Philadelphia; and Dr. Henry P. C. Wilson, by Dr. B. Bernard Browne, of Baltimore.

The following subjects will be presented for discussion: Has Electricity ceased to be a Useful Therapeutic Agent in Gynæcology? by Dr. Henry J. Garrigues, Dr, Egbert H. Grandin, Dr. George J. Engelmann, of Boston, and Dr. Willis E. Ford, of Utica; Should Non-absorbable Ligatures be Discarded in Gynæcological Surgery? by Dr. Howard A. Kelly, of Baltimore; Dr. R. Stansbury Sutton, of Pittsburgh, Dr. Charles P. Noble, of Philadelphia, and Dr. Seth C. Gordon, of Portland, Maine. The Surgical Treatment of Sterility. How far is it Justifiable or Expedient? by Dr. William K. Polk, of New York, Dr. W. Gill Wylie, of New York, and Dr. Matthew D. Mann, of Buffalo.

The New York Academy of Medicine.—At the last regular meeting of the Section in Medicine, on Thursday evening, the 19th inst., Dr. Henry W. Berg was to read a paper on The Serum Exanthemata observed in the Antitoxine Treatment of Diphtheria, which was to be discussed by Dr. H. G. Piffard, Dr. J. W. Brannan, Dr. W. H. Park, Dr. W. P. Northrup, Dr. R. J. Develin, Dr. H. D. Chapin, and Dr. A. Jacobi.

At the next meeting of the Section in Laryngology and Rhinology, on Wednesday evening, the 25th inst., Dr. Charles H. Knight will read a paper on Transillumination in the Diagnosis of Empyema of the Maxillary Antrum; and Dr. J. O. Tansley will present cases including one of suspected pharyngeal aneurysm. Apparatus and new instruments will be exhibited.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 26th inst., the following papers will be presented for discussion: Acute Inversion of the Uterus, with a Report of a Case, by Dr. William S. Stone; and A Clinical Report of Five Cases of Appendicitis in Pregnancy and the Puerperal State, by Dr. S. Marx. Patients will be presented, and specimens and new instruments will be exhibited.

A "Greater New York" Special Train to Denver.—At the last meeting of the New York County Medical Association a committee on transportation was appointed to arrange for a Greater New York special train to the Denver meeting of the American Medical Association. The committee consists of Dr. J. J. E. Maher (chairman), No. 34 West Twenty-fifth Street; Dr. W. R. L. Dalton, No. 477 West One hundred and forty-fifth Street; Dr. F. H. Wiggin, No. 55 West Thirty-sixth Street; Dr. L. Fischer, No. 187 Second Avenue; and Dr. A. E. Gallant (secretary), No. 60 West Fifty-sixth Street. They say:

"All physicians and their friends, of the city of New York and vicinity, going to the meeting are specially invited to join the regular association special train party. They will find it greatly to their advantage both socially and financially. Those who have attended the national meetings at a great distance can attest the advantages of going in good company in large numbers. They point out, as of incalculable importance, the preliminary introductions, the personal contact, the social intercourse, the interchange of sentiment, opinion, and experience, and finally the opportune appreciation of the personality of those interested. Thus prepared *en route,* one enters more fully into a keen appreciation of the routine of work and enjoyment during the period of the meeting. With these advantages before him, who would go alone? The most satisfactory arrangements are being made; and special information will be forwarded to all who communicate with the chairman, or any member of the committee."

The Pathology of Uræmic Intoxications.—On March 4th Dr. C. A. Herter, of New York, read a paper thus entitled before the Montreal Medical Society. By the courtesy of the author and that of the *Montreal Medical Journal,* in which the paper is to be published in full, we are enabled to make the following selections from it:

It is obvious that urea does not play a necessary part in the causation of the symptoms of human convulsive uræmia. This does not, however, prove that the accumulation of urea in the blood in large excess is of little importance. There is good evidence that such an accumulation points to a considerable degree of degeneration of the secreting epithelium, and the degeneration which permits the storage of urea permits the storage of other constituents of the blood, including sodium chloride, potassium salts, nitrogenous extractives, and possibly a toxic proteid substance. It is partly on account of this multiplicity of substances retained in the blood at the same time with urea that we are unable to fix more definitely on the part which urea plays as a toxic substance. It is on the whole very likely that urea, in conjunction with other substances accumulated in the blood as the result of renal insufficiency, exerts an influence in the production of uræmic symptoms, especially vomiting and diarrhœa. The urea of the blood has been greatly increased in all the instances of uræmic vomiting and diarrhœa that the author has had an opportunity to study.

In recent years there has been some disposition to regard the extractive substances as the cause of uræmic symptoms, but the evidence in support of this view has never been strong. In general the extractives are somewhat increased if the quantity of urea is increased, but there are cases of uræmia in which the extractives are apparently normal in amount, and there are cases which would not usually be classed as uræmic where the extractives are markedly increased. The evidence indicates that, while extractive substances in excess can not be regarded as entirely harmless for the organism, they certainly can not be looked upon as playing other than an auxiliary part in the production of uræmic symptoms.

The conclusions that have been stated regarding the extractives of the blood are applicable to the potassium-salts theory of uræmia, which was originally advanced by Felz and Ritter, and which constitutes a most instructive chapter in the theories of uræmia. Numerous observations made by the author confirm the statement of Horbaczewski that the content of potassium salts in uræmic blood may be quite normal in amount. This seems to be especially true of the blood of puerperal eclampsia. These salts are, however, distinctly increased in many instances of uræmia, but apparently never enough to make them wholly responsible for grave nervous symptoms. The potassium theory as an exclusive cause of uræmia has recently been revived in France by Charrier, but upon wholly insufficient grounds. It may be said at present that, while the potassium salts can not be considered to play a leading part in the production of uræmic symptoms, their presence in excess in the blood must be regarded as a possible factor in precipitating symptoms of intoxication.

The ammonium carbonate theory of Frerichs, once so popular, has now only a historical interest and need not be discussed here. An allied hypothesis has, however, been suggested—namely, that the cause of uræmia is the presence in the blood of the ammonium salt of carbamic acid—ammonium carbamate. The recent investigations of Hahn, Pawlow, Massen, and Nencki render it probable that urea is formed in the liver by the dehydration of ammonium carbonate, and this fact has led some physiologists to suspect that the highly toxic ammonium carbamate may be responsible for uræmic states. This view appears to me to be at variance with the following facts:

1. In watery solution ammonium carbamate is very unstable and is rapidly converted into ammonium carbonate. We know, however, that ammonium carbonate does not occur in uræmic blood in sufficient amount to produce symptoms, and usually can not be found at all.

2. The toxicity of uræmic blood is not lessened by dialysis, as it would be if the toxicity depended on a diffusible ammonium salt; nor does the diffusate contain ammonium.

3. The urine of uræmic patients does not necessarily contain an increased proportion of nitrogen of ammonia, as it should do if the synthesis of urea were impaired. On the other hand, in liver diseases in which there is extensive parenchymatous destruction, the nitrogen of ammonia may be greatly increased in the absence of uræmic symptoms.

Owing to the instability of ammonium carbamate its isolation from the blood is impracticable, and inferences as to its occurrence there depend chiefly on indirect evidence. The conclusion seems justified that such knowledge as we possess does not support the supposition that ammonium carbamate is concerned with the production of uræmic intoxications.

Dr. Herter makes brief reference to two widely different theories of the nature of uræmia. One of these, he says, is the celebrated hypothesis of Traube that renal disease causes thinning of the blood plasma, hypertrophy of the left ventricle, and excessive arterial pressure. If the arterial tension is increased beyond a certain point or the plasma of the blood becomes further thinned, œdema and anæmia of the brain are produced and uræmic symptoms result. There are fatal objections to this theory. These are: 1. That there may be marked cerebral symptoms without arterial tension. 2. That the specific gravity of the serum is often normal in typical uræmia. 3. That there are uræmic patients in whom neither cerebral anæmia nor cerebral œdema are found at autopsy. 4. That a marked degree of anæmia of the brain and of œdema is occasionally found in the absence of all symptoms resembling uræmia.

It is, however, clear from clinical study that there is often a close association between certain uræmic symptoms, especially convulsions and dyspnœa, and high arterial tension. And there is no doubt that when we reduce excessive vascular tension by means of vaso-dilators, such as nitroglycerin, we often relieve the symptoms in the case of dyspnœa, sometimes in a striking degree. At present it appears probable that the high arterial tension of uræmia is due to the action of toxic material in the blood. It is not at all inconsistent with this view that variations in the circulation of the central nervous system should influence, in important ways, symptoms which, like dyspnœa, are of central origin.

Another theory of uræmia which can not be passed by is that of Brown-Séquard, who holds that the kidney elaborates an internal secretion which is essential to health, and the suppression of which is largely responsible for the phenomena of uræmia—the accumulation in the blood of toxic substances which should be excreted by the urine having little or no influence on the causation of these phenomena. This conception of uræmia rests mainly on the alleged fact that the injection of kidney extract into the circulation of a nephrectomized dog causes the temporary disappearance of uræmic phenomena. The evidence which has been advanced to establish this fact must be regarded as insufficient. Thus, the observation of Brown-Séquard, that the injection of kidney extract causes an increase in the muscular power of nephrectomized dogs, rests on a small number of experiments which appear neither to have yielded decided results nor to have been subjected to careful control, and Meyer's contention that the injection of renal extract gives marked relief to the dyspnœa of double nephrectomy likewise rests on a small number of observations that seem distinctly to call for proper controls. We can not place much reliance on the statements of Teissier and Frenkel, in a recent publication, that the injection of a few cubic centimetres of renal extract in the human uræmic subject is capable of rendering a hypotoxic urine hypertoxic by stimulating the elimination of toxines through the urine at the same time that the symptoms of uræmia are ameliorated. Considerable personal experience makes Dr. Herter highly skeptical as to the propriety of our drawing inferences as to the condition of the blood from the effects of intravenous infusions of urine in animals. A very obvious and serious gap in the experiments of Teissier and Frenkel, he says, is the absence of observations on the toxic salts ingested with the food and eliminated with the urine, the toxicity of the urine, both in health and in disease, being largely dependent on its potassium salts. Future investigations may show that the kidney elaborates an internal secretion, but at present we are justified in taking the position that the observations now relating to this question do not help us in explaining the pathology of uræmia.

The alterations in the composition of the blood that are entailed by double nephrectomy are of the greatest interest in the study of the pathology of uræmia, for they necessarily represent the results of the most extreme degree of renal incompetency *per se* and without complicating factors such as are commonly present in human uræmia.

The urea of the blood is remarkably increased after double nephrectomy—sometimes reaching ten times the former percentage at the end of three days. The extractives are also distinctly increased. A moderate increase in the total salts of the blood is probably a regular feature of the blood of nephrectomized animals. The potassium salts may be somewhat increased, but, on the other hand, may not be appreciably changed. The total proteids undergo no alteration in amount. A very interesting feature of the blood has been the marked increase in fibrin which was noted in a number of the nephrectomized dogs.

There is a well-recognized group of patients with chronic nephritis whose leading characteristics clinically are high arterial tension, dyspnœa, slight albuminuria, and sometimes headache. Although the kidneys of such patients present considerable variations in their gross character, there is in all cases widespread degeneration of the secreting tubules, with fibrous changes in the tufts, and a distinct increase in the intertubular connective tissue. Cases of this character are often benefited by venesection (at least temporarily), and it has thus become possible to obtain the blood for study in a number of instances. As already stated, it is not possible to say whether or not the serum from such patients is regularly more toxic than normal, although it appears as if this were the case in some instances at least. It is usual in these cases for the blood to contain an increased percentage of urea, thus affording a positive indication that the kidney is not wholly competent to perform its excretory functions. Cases of nephritis of this type may be the distinct consequence of infection, but there is no reason to think that pathogenic bacterial products are present in the blood at the period when these cases run a chronic and entirely afebrile course. The only obvious pathological condition of the blood that is likely to be connected with the characteristic exacerbations of dyspnœa and the increase in arterial tension is the retention in the blood of constituents that should be excreted, perhaps including an unknown toxic proteid material. In other words (leaving aside the fact that the water of the plasma may be increased in such cases), the condition of the blood in the cases described is probably analogous to the condition which was described as characteristic of double nephrectomy, and, in all likelihood, is the basis of human obstructive uræmia. At least this much is certain: in the three different conditions, double nephrectomy, obstructive uræmia, and chronic nephritis, with high tension and uræmic dyspnœa, there is an actual retention of urea in the blood and not improbably there is an increased toxicity of the blood due to a proteid constituent. It is, of course, obvious that there are clinical differences between human obstructive uræmia and the dyspnoic type which this pathological conception does not explain. We must, however, remember that in the one case we have to do with an acute condition arising sometimes in persons whose vascular system is not decidedly altered, while in the second case the toxæmia is a chronic state arising in a person who, simultaneously and for reasons not understood, has become affected with cardiovascular fibrosis. It is possible that this cardiovascular fibrosis plays a mechanical part in the production of dyspnœa in the presence of a uræmic toxæmia like that referred to.

In the course of a small proportion of cases of nephritis, convulsions constitute an obtrusive occurrence. The convulsive seizures may form part of the history of almost any type of nephritis—of nephritis with preponderant parenchymatous change, of nephritis with extreme connective-tissue alterations. In a certain number of cases the symptoms previous to the convulsive seizures have been those of the type already referred to, with high-tension pulse, dyspnœa, moderate albuminuria, etc. In other words, this type of uræmia is liable at any time to become modified by spastic phenomena. It should be noted that in some of these cases, where convulsions are thus superposed, the temperature remains normal until the seizure, and is then only slightly elevated—not more than we might expect from violent muscular action. It is plain that if the convulsions in these cases are of toxæmic origin they must depend upon some other substance than urea, and it is not unlikely that they depend on the presence of the proteid substance to which the exaggerated toxicity of the blood appears to be due. There does not, however, appear to be any significant difference between the convulsive and the non-convulsive group of cases, the difference in the toxicity of the blood being probably one of degree rather than of kind. Again, the clinical facts lend support to the view that the pathological basis of the two sets of cases can not be very different, for the spastic phenomena are often so slight as to constitute only fibrillary twitchings that recur infrequently and bring about no noticeable change in the condition of the patient. It may be that the presence or absence of these nervous phenomena is connected with slight variations in the degree of toxæmia or with temporary alterations in circulation of the brain.

The evidence thus seems to favor the view that in the group of cases which has been discussed the symptoms are dependent largely upon renal insufficiency and upon alterations in the blood that are secondary to this condition. It is important to realize that, although a kidney may be competent to excrete urea so actively as to prevent the accumulation of urea in the blood, it does not necessarily follow that it is competent to excrete, or to transform and excrete, other substances which a healthy kidney would not permit to remain in the blood.

It may be that further studies will show that the essential pathological element in the forms of uræmia already considered is the presence of the proteid serum poison, although in the form of uræmia characterized by gastro-enteric derangements the accumulation of urea, salts, etc., appears to be a regular and probably a determining factor.

An element quite different from simple renal insufficiency enters into many cases of uræmia—namely, that of infection. There is a small but suggestive group of patients who, after exposure to cold or wet, are attacked with high fever, partial suppression of urine, albuminuria, and perhaps hæmaturia, with headache, delirium, and coma. The peculiarity of these cases is that the kidneys have previously been normal. There seems little doubt that the cerebral symptoms in such cases of acute degeneration of the kidney or acute nephritis are due wholly to the action of toxines and not to the retention of substances in the blood which are normally eliminated by the kidney.

These unusual but instructive cases appear to represent the type of uræmia not widely removed from human obstructive uræmia in its pathological basis. As might be expected, these cases retain their purely infective type only a short time, for the damage to the kidney soon leads to pronounced insufficiency and to the accumulation of urea, extractives, etc., in the blood in marked excess. An analogous condition may be produced in monkeys by the subcutaneous injection of pathogenic bacterial filtrates.

In a considerable number of cases of chronic nephritis which run an afebrile course there is a sudden development of fever, with partial suppression of urine, increase in the albumin of the urine, and cerebral symptoms such as delirium, coma, or convulsions. The kidney may show the lesions of an acute nephritis grafted upon those of a chronic nephritis. Post-mortem cultures made from the blood and various organs frequently show the presence of pyogenic or other pathogenic bacteria. In short, we have in these cases both clinical and pathological evidence of the occurrence of an acute infection. It seems reasonable to suppose that many of the symptoms which we call uræmic in these terminal cases are due to the combination of this infection with a pre-existing toxæmia due to chronic renal insufficiency. But such infections are by no means always terminal states. It has been shown by Welch and others that patients with chronic nephritis are especially susceptible to infection, and it often happens that a patient with chronic diffuse nephritis shows grave cerebral symptoms at the time of a trivial infection which causes an amygdalitis, a slight bronchitis, or an otitis—symptoms which we very properly look upon as uræmic, but from which there is apparently complete recovery.

Dr. Herter strongly inclines to the view that we should extend our conception of the term uræmia to include every case of renal insufficiency for urea, although well-defined uræmic symptoms may be wanting. It has been made clear that typical uræmic symptoms may arise in persons whose blood shows no increase in urea, but this fact does not deprive the accumulation of urea, salts, etc., of clinical significance; it merely illustrates that the pathological basis of what is clinically termed uræmia is not always the same. It seems desirable that we should regard any toxæmia as uræmic which can be shown to depend on the incapacity of the kidney to perform the functions of a healthy kidney, whether these functions consist simply in the elimination of substances as they exist in the blood furnished by the renal artery, or whether they consist also in the transformation of certain elements of the blood previous to elimination.

Again, it is only rational that we should recognize that the essential elements of a uræmic intoxication may exist without being present in such a degree as to cause obtrusive and typical uræmic symptoms. Or, to state the fact in a different form, *we should recognize that there is such a thing as a latent uræmic intoxication.* Such a latent uræmia is probably present in many forms of disease, especially acute disease, such as pneumonia, where the kidney is the seat of lesions, and in chronic nephritis. In the former condition it constitutes a complicating state. The fact that such a toxæmia may be marked by associated conditions or may be in itself unrecognizable clinically does not prove that it is a state which exerts no influence in determining the prognosis.

Efforts have been made to connect puerperal eclampsia with the formation of toxic products formed by the chemical activities of the living cells of the embryo, with the absorption of toxic material formed in the intestine, and with the accumulation of urea in the blood as the result of nephritis or of pressure on the renal vessels, but the efficacy of these supposed agencies still remains unproved.

The author's experience with puerperal eclampsia is limited to the study of the blood of six victims of this state. In at least three of these cases the urea of the blood was not increased in percentage. It seems highly probable that the toxicity of the blood was distinctly increased in at least two of these cases. Of the other cases it can not be positively stated that the blood was more toxic to animals than is ever the case with the blood of non-eclamptic puerperal women, but, on the other hand, it can not be stated that the blood was not more toxic than normal.

At the present time there is a controversy as to the toxicity of the blood of eclamptic women, which can be definitely settled only by numerous and very carefully conducted observations. Although there is thus considerable uncertainty as to whether an increased toxicity of the blood is an essential feature of puerperal eclampsia, there is important indirect evidence of the existence of such a toxæmia. This consists in the presence of anæmic and hæmorrhagic areas of necrosis in the livers of women who have died of eclampsia.

Schmorl, who first described these striking lesions, regards the thromboses of the capillaries and small circumportal veins with which they are associated as dependent on the passage into the blood of placental elements and products of placental degeneration.

Flexner has succeeded in producing similar alterations in the liver by means of experimental intoxications, and there can be little doubt that we must regard the necrotic changes in the organs of eclamptic women as dependent on a toxæmia. How this toxæmia arises and how it is related to the toxæmias of nephritis remains to be discovered. There is reason to think that it is not due to bacterial infection.

Rheumatic Affections of the Heart in Childhood.—Dr. John F. H. Broadbent (*Edinburgh Medical Journal,* May) points out that, while acute rheumatism in adults gives rise to marked constitutional disturbance, in childhood the articular manifestations are, as a rule, slight and may be confined to fugitive pains or stiffness in the joints or limbs; there may be little or no constitutional disturbance, so that the patient, after a day or two indoors, goes about again as usual. In spite of this absence of any marked symptoms, the rheumatic poison may all the time be attacking the heart and setting up endocarditis, pericarditis, or myocarditis in conjunction with one or both of the former. In the rheumatism of childhood, he says, the heart comparatively rarely escapes, and, owing to the insidious nature of the inflammatory process, irreparable damage may be done before the severity of the cardiac symptoms compels the patient to seek medical advice or take to his bed. He then reports the case of a boy of fourteen in whom the only warning of the rheumatic condition that gave rise to such serious cardiac complications as to kill in six weeks had been some stiffness in the knees two months before he came to the hospital, and the boy was undoubtedly going about his work with active endocarditis for two months. As special indications of subjects in whom repeated attacks of cardiac inflammation are likely to occur, the author refers to rheumatic nodules, small fibrous growths commonly of about the size of a split pea, but sometimes as big as an almond or even larger. They are found over the olecranon or condyles of the humerus, on the edges of the patella, over the malleoli, on the finger joints, and on the sheaths of tendons, sometimes on the scalp or vertebral column, and are attached by their base to the fascia or sheaths of tendons, or to some portion of underlying fibrous tissue. The skin over them is freely movable, and they are best seen by flexing the joint over which they are situated, when the skin is rendered tense. According to Dr. Cheadle, these nodules "mean persistent cardiac disease, generally uncontrollable, and marching almost infallibly to a fatal ending." Exudative erythemata have also an evil prognostic significance in rheumatic subjects, and so in a much lesser degree has chorea. Dr. Broadbent concludes: Nothing, however, in severe cases seems to arrest or exert any controlling influence on the course of cardiac inflammation in children, when once it has gained a firm hold. It is, therefore, of the first importance that any indications of danger threatening the heart should be recognized as early as possible, and due precautions taken. If, then, a suspicion of rheumatism is aroused by complaints of stiffness in the joints or pains in the limbs, in a child who comes of a rheumatic stock, or who has previously suffered from chorea or some other rheumatic manifestation, the patient should be kept under careful observation, and the heart examined every two or three days for some weeks. Any exposure to chill should be guarded against, and exercise should be limited in amount for some time after all apparent symptoms have subsided. When nodules are present, danger to the heart is imminent. The child should be kept in bed, and the heart should be examined, the morning and evening temperature taken, and the rate of pulse and respiration noted every day, till these ominous signals have disappeared. Where possible, children who have once suffered from cardiac inflammation, more especially where this was associated with nodules, should winter in some warm, dry climate.

Antitetanic Serum in Horses.—M. A. Norey (*Journal de zootechnie; American Veterinary Review,* May) records the case of two horses which both had their tails amputated by a blacksmith with the same knife. Both horses had tetanus, and were treated with chloral, bromide, etc. One died on the fourth day; the other, being treated from the second day with daily injections of ten cubic centimetres of antitetanic serum, recovered in fifteen days.

A Rapid Method of Sterilizing Instruments.—Dr. A. E. Wright (*Gaillard's Medical Journal,* May), professor of pathology in the British Army Medical School, Netley, recommends for sterilization olive oil heated to from 320° to 356° F. in place of boiling water. This method is more rapid, and does not damage instruments or syringes. All that is requisite is to dip the instrument into the oil or to draw the oil up twice into a syringe. That the proper temperature of the oil is attained may be ascertained, in the absence of a thermometer, by dipping a piece of bread crumb into it, when it will be found to become brown and crisp. The olive oil may be heated in a spoon over an alcohol lamp. If needles or syringes are sterilized in this manner before being put away, it protects them from rust. This method of sterilization has been subjected to the severest laboratory tests, and absolute sterility has always been found.

Sitting up after Childbirth.—Dr. Livius Lankford (*North Carolina Medical Journal,* February 20th; *Medical Council,* May) argues, both on theoretical grounds and from practical experience, that after forty-eight hours at least lying-in patients should occasionally get into an upright posture for a short time—during meals, for instance, and while the bed is being made—to assist in effecting drainage of the lochia.

Mental Excitement a Predisposing Cause of Post-partum Hæmorrhage.—Dr. J. A. Adkisson (*Medical Council,* May) records a case in which, a woman in labor being frightened by her husband standing on the bed with a carving knife and defying any one's approach, his fears of post-partum hæmorrhage as a consequence were justified, notwithstanding the fact that "cricket-ball" contraction of the uterus after removal of the placenta indicated an absence of uterine atony.

Compulsory Vaccination.—While England (*Revue médicale,* Quebec, May 4th) is still disputing over Jenner's discovery, Japan has made not only primary vaccination but quinquennial revaccination compulsory, and ordains the exclusive use of aseptically prepared calf lymph.

The External Application of Salicylate of Methyl in Hepatic Colic.—Dr. Chambard-Hénon, of Lyons (*Revue médicale,* Quebec, May 4th), at the French Congress of Medicine at Montpellier, thus summed up the results of his investigations on this subject: To obtain good results the remedy should be applied as soon as possible, as soon, in fact, as the patient complains of weight in the right hypochondrium and some tender swelling of the liver in the region of the gall bladder is determined. Daily amounts of from ninety to a hundred grains may be applied without ill results. It is smeared on the part and covered with a large piece of gutta percha tissue. Relief is usually felt in about half an hour after the application is made, and is usually very marked within an hour. This treatment has none of the inconveniences attending the hypodermic injection of morphine; salicylate of methyl does not fatigue the sick like salicylate of sodium. The cases treated by the author appear encouraging; he proposes, therefore, to give preferential trial to this method in all cases, returning to older methods (*e. g.,* morphine, chloral, chloroform, etc.) only in case of failure.

Serum Therapy Experiment.—Vignirat (*Annals of Surgery,* February; *Fort Wayne Medical Journal-Magazine,* April) filled a cavity left by his having extirpated a sebaceous cyst with osteomyelitic pus, and depended solely upon antistaphylococcus serum to prevent results. The pus, on aspiration, showed that the staphylococci had been completely destroyed. But, as the *Journal-Magazine* points out, there is no evidence of the virulence of the staphylococci, and the personal element of individual resistance can not be ignored as a probable factor.

The Doctor's Responsibility for an Error of Dose.—A French court at Valence (*Gazette hebdomadaire de médecine et de chirurgie,* April 28th) has decided that, as a physician is not infallible and does not profess to be so, an error on his part as to the dose of a remedy, even when proved, does not necessarily involve responsibility for malpractice. A lady of Valence, before submitting to the treatment advised in her case by a local physician, consulted Dr. Z., of Lyons, who in a note addressed to the local practitioner suggested injections of cyanide of mercury of a strength of 0.75 to 1,000. The local physician considered the dose too weak and prescribed a solution of a strength of three fifths of a grain of cyanide of potassium to one hundred and fifty grains of distilled water. The doctor gave two injections. The patient suffered severe pain, but after several weeks the affected parts returned to their condition before the treatment without any amelioration. When the doctor sent in his bill, the lady's husband not only refused to pay, but brought suit against the physician for damages for injury done to his wife. The court having ordered damages to be paid, the doctor appealed to the civil tribunal of Valence, which reversed the verdict, with the above-named result.

Dr. Howard Kelly and the District of Columbia Antivivisection Bill.—In the *Journal* for April 9th we called attention to a protest by Dr. Welch, of Baltimore, against this bill. Dr. Howard A. Kelly, in a letter published in the *Medical Standard* for May, now points out in trenchant language to what a complete deadlock the progress of surgery and even the practice of modern medicine would be brought by the ultimate success of the antivivisection fanatics in their efforts to bring about the total prohibition of animal experimentation, to the accomplishment of which the present bill is but the thin end of the wedge. He says that in a conversation he recently had with one of the prominent antivivisectionists the latter frankly stated that his design was to stop even the hypodermic puncture of an animal. He need scarcely remind his correspondent where this would put us; not only would all physiological work stop, but no bacteriological experiments could be made with animals, nor any tests as to the relative value of suture materials; no new abdominal operations could be devised and tried beforehand, no more diphtheria serum could be manufactured in this country, nor any more vaccine virus be obtained from animals; neither could we consistently import any of the animal serums or virus for use here, as the importation of these articles would manifestly create a necessity for the use of the animals abroad to secure the material.

We wonder if the "prominent antivivisectionist" above referred to, were his only child attacked with malignant diphtheria, would decline even at the earnest desire of a force of consulting physicians to allow the use of antitoxine treatment. If not, he is singularly inconsistent.

The Laughing Plant of Arabia.—The *Montreal Pharmaceutical Journal* for May gives a description of the laughing plant and its effects upon man. It grows in Arabia, and derives its name from the effects produced by eating its seeds. The plant is of moderate size, with bright-yellow flowers, and soft, velvety seed pods, each of which contains two or three seeds resembling small black beans. The natives of the district where the plant grows dry these seeds and reduce them to powder. A small dose of this powder has similar effects to those arising from the inhalation of laughing gas. It causes the soberest person to dance, shout, and laugh with the boisterous excitement of a madman, and to rush about cutting the most ridiculous capers for about an hour. At the expiration of this time exhaustion sets in, and the excited person falls asleep, to wake after several hours with no recollection whatever of his antics.

This description reminds us of a plant known in the Lower California Desert as the loco weed, which has a similar effect upon horses, driving them into a state of boisterous craziness.

Total Extirpation of the Bladder.—M. Tuffier and M. Dujarier (*Revue de chirurgie,* April, 1898), after detailing the history of the operation and referring to twelve previously recorded cases, give the details of their own operation upon a man forty years of age for an indurated tumor occupying the entire left surface of the organ, which proved on microscopical examination to be an alveolar epithelioma. The operation was as follows: A median incision of about four inches was made, being crossed at its lower extremity at the symphysis pubis by a horizontal one extending from one inguinal ring to the other. The two flaps being turned aside, a wide field of operation was laid open and free access afforded to the deep-seated structures. With the finger the entire anterior surface of the bladder was then separated down to the neck and the vicinity of the ureters. The bladder was then drawn through the wound in a manner comparable to the progressive lowering of the uterus in vaginal hysterectomy; as the finger liberated with all care the lateral surfaces of the bladder the retracting forceps was made to take a grip lower and lower down on the vesical walls, so as to draw the bladder more and more out. The neck of the bladder was thus first isolated and cut, then the inferior vesical arteries and the ureters. Two curved clamps were then placed on the pedicles thus formed, and they were cut as the uterine pedicles are cut in hysterectomy. The superior, or peritoneal, surface of the bladder was next dissected with the greatest care and isolated in its whole extent without opening the peritonæum, and with the aid of the traction afforded by the forceps the bladder was entirely freed and removed, and a catheter passed into each ureter, cauterization of its orifice with a red heat having been first made to insure asepsis. The ureters were disposed of in this case (a man) by implanting them into the sigmoid flexure of the colon. In the case of a woman they would debouch them into the vagina. The two ureteral sounds were affixed to the ureters by a suture, and two small apertures being made in the intestine, the sounds with their corresponding suture threads were passed through the apertures and made to emerge at the anus. Traction on the threads brought the ducts into close contact with the rectal walls, and the threads were caught by forceps to prevent their return. The operation was successful, as two months and a half later the patient was able to return to his occupation. A hypogastric fistula remained, but with clean and non-excoriated edges. He had gained flesh and recovered strength and did not suffer in any way.

The authors' conclusions are that the operation of total extirpation is only justified by a sufficiently resistant state of the subject and by great extent of the lesion accompanied by integrity of the environment. The operator should aim at rapidity, a minimum of disturbance, and as little handling of the peritonæum as possible.

The class of cases in which the operation is called for is of two kinds—viz., those in which a cystotomy has already been performed, in which case the adhesions formed by the fistula necessitate laborious dissection and the field of operation is infected; and those in which the bladder is closed, in which case an exploratory incision is called for to ascertain the extent and site of the lesions, unless cystoscopic examination of the bladder suffices to render it unnecessary. The incision recommended is the inverted T practised by the authors. The most important point after exposing the bladder is the stripping off of the peritonæum. The membrane, which is easily detached from the bladder in front, requires at the fundus of the organ very careful procedure, the stripping taking place almost in the muscular coat. Early section of the ureteral pedicle and of the neck is advised, the mobility of the organ thus attained facilitating the manœuvres of extirpation. Catheterism of the ureters before section was not found necessary; it is easily done after they have been clamped and divided. Clamping of the neck of the bladder is also necessary in consequence of the free venous hæmorrhage.

Rupture of the Symphysis Pubis from External Violence.—In the May number of the *Edinburgh Medical Journal* Dr. Alexis Thomson records the following peculiar case: The patient, a strong man, forty-two years old, had been exercising a restive horse, when the animal bucked, throwing the rider up from his seat, so that he came down again with great force on the pommel of the saddle; he slid to the ground and was found leaning against the animal in a fainting condition. On examination, an enormous swelling and discoloration of the soft parts over the pubes, of the external genitals, and of the perinæum was found. There was no evidence of visceral injury, and normal urine was drawn off with a catheter.

For several days the patient progressed well, except that he required the catheter; then his temperature began to rise in the evening, he lost flesh and strength, and the swollen soft parts became the seat of pain and tenderness. He appeared to be going down hill rapidly, and his condition was certainly serious at the time the author saw him, two weeks after the accident. He was sallow, depressed, and helpless; his evening temperature was as high as 103° F. He was evidently suffering from a serious form of septic poisoning. Any movement or manipulation of the pelvis caused severe pain. The soft parts, from a little below the umbilicus to the perinæum, including the genitals, were discolored with extravasated blood, and were floating on fluid, so that it was easy to make the wave of fluctuation pass to the perinæum from above the pubes. Nothing was made out per rectum beyond a fullness and swelling of the parts behind the pubic arch. There was no appreciable alteration in the sacro-iliac joint on either side. The pubic bones could not be felt, on account of the enormous collection of fluid in the tissues anterior to them. It was impossible to make an exact diagnosis. The treatment was obvious. Under chloroform the author made an extensive horizontal incision, as for suprapubic cystotomy; his fingers then entered a large cavity filled with old clots and a blood-stained watery fluid, which was turbid from admixture with pus. This cavity was bounded posteriorly by the bladder (which was intact) and anteriorly by the pubic bones and abdominal muscles; the reflection of the peritonæum was displaced upward. Into this cavity there projected the pubic bone of either side, separated from each other by an interval amounting to the breadth of two fingers, the left bone lying on a posterior plane, with its articulating surface bared of soft parts; the articulating surface of the right bone was covered with fibro-cartilage. The cavity extended downward behind the pubic bones to the perinæum, in which there was a large accumulation of clots and fluid. A second incision was made in this situation, and two large drainage-tubes were pulled into position, so as to project also at the wound above the pubes. It was quite impossible, the author states, to replace the pubic bones in their normal relative position by any force at his disposal. A firm bandage was applied around the pelvis.

For a period of ten days the patient's progress was all that could be desired, when his temperature ran up suddenly to 104° F., with acute pain in the left side, dyspnœa, cough, and rough friction over the left lung anteriorly; there was also roughness of both heart sounds. The following day he coughed up bright red blood at intervals, and there were coarse crepitations to be heard at the right base posteriorly. After a serious and protracted illness, he made an excellent recovery. He came into Edinburgh to show himself five months after the accident; he was able to walk about and attend to his work as a coachman. He suffered from occasional twinges of pain, referred to the sacro-iliac joints. There was a small sinus above the pubes. The pelvis appeared to be quite rigid and strong, although the irregularity at the symphysis pubis could still be felt.

The Curative Action of Hydrastis Canadensis.—In the *Indépendance médicale* for April 17th, M. Marini, of Bagdad, relates his experience with this drug in the treatment of hæmorrhage in cases of hæmorrhoids, tuberculosis, and dysentery, and states that he has obtained remarkable results. He cites several cases of hæmorrhoidal hæmorrhage, of which the following is an example: The patient was a native of Bagdad, who had suffered from hæmorrhages for more than fifteen years. At each discharge he lost a good deal of blood, and sank into a condition of syncope from which it was difficult to restore him. The author practised hypodermic injections of ergotine in the affected region, but the hæmorrhage persisted, and finally he resorted to the following mixture:

℞	Fluid extract of hydrastis canadensis	60 grains;
	Sweetened distilled water	3.5 ounces.

A dessertspoonful of this was taken every hour during the day. To this mixture, he says, thirty grains of Bonjean's ergotine may be added without inconvenience.

The blood ceased to flow a few hours after its administration, and its employment was continued for ten consecutive days. There has been no return of the hæmorrhage since then.

In cases of alcoholic excess it is more difficult to control the hæmorrhage, and a slight loss of blood may continue after the employment of the drug, although it is insignificant in proportion. Alcohol, the author thinks, seems to be an active and injurious agent in causing the return of hæmorrhages of this character, and it should be absolutely proscribed, otherwise the patients are exposed to dangerous relapses.

Regarding the good effects of this drug in tuberculous hæmorrhages, the author concludes that it is the best pulmonary hæmostatic. Huchard's observations, he says, confirm this. Concerning the hæmorrhages of dysentery, the author states that twice he has been enabled to completely suppress them with this drug after all other measures had failed.

He calls attention particularly to the favorable and almost invariable effect that hydrastis exercises on hæmorrhoids, whether internal or external. This product possesses generally an indisputable elective action of constriction in the various forms of chronic phlebitis; it is at the same time a very energetic vaso-constrictor and a tonic for the veins. This action was almost constantly met with by the author in cases in which he used the hydrastis to combat hæmorrhage. Strangulated or irreducible hæmorrhoids are reduced with the greatest facility. In cases of this nature the action of the drug is rapid and sure, more so than that of ergotine. Under its influence the hæmorrhoids become diminished in size and disappear after the treatment has been sufficiently prolonged.

M. Marini observed also that the hydrastis sharpened the appetite, strengthened the enfeebled powers and the tissues, increased the respiratory movements, hastened organic assimilation, and restored the gastric functions.

This product has one inconvenience, that of slackening the cardiac beats when it is administered in large amounts—that is, from sixty to ninety grains a day—and it is therefore contraindicated in persons with a permanent slow pulse and in chronic cardiac affections.

M. Marini employed this drug many times as an oxytocic, and found that it was not so rapid in its action as quinine, but he always used it without the least danger in the following formula:

℞ Fluid extract of hydrastis canadensis	60 grains;
Sodium salicylate	38 "
Sodium borate	45 "
Sweetened distilled peppermint water	3.5 ounces.

M.

A dessertspoonful of this mixture is to be taken every half hour until labor occurs. At the same time two of the following capsules are to be taken every fifteen minutes:

℞ Quinine sulphate	15 grains;
Pure caffeine	12 "

M.

This quantity will make six capsules. With the employment of these prescriptions labor is hastened and occurs under the best possible conditions. The post-partum hæmorrhage becomes less abundant and there is less danger of vascular trouble.

Many writers have testified to the good effects of hydrastis in the different forms of metrorrhagia, recognizing its indisputable and most decided action in uterine hæmorrhages. M. Marini maintains that it is the preferable remedy in the hæmorrhages of fibromyomas, and that it is the best means of combating the hæmorrhages of pregnancy at any stage, provided it is taken at sufficiently prolonged intervals—that is, twenty drops every three hours or four times a day.

In conclusion, M. Marini lays down the following principal indications of the drug in question: 1. Hydrastis canadensis administered at any stage during pregnancy, in amounts of from one hundred to two hundred drops a day for several consecutive days, has no dangerous action on the mother or on the fœtus; it is the same when it is given during labor. 2. Administered either during pregnancy or during labor and delivery, as well as afterward, it exercises an invariable hæmostatic, curative, and prophylactic action on the uterus, without exercising any ecbolic action on the uterine muscle or moderating the contractions. 3. It is a therapeutic substance which is very valuable in obstetric practice, and is certainly superior to ergot of rye; it does not present the inconveniences of the latter, and may be administered freely either as a curative or as a prophylactic in the metrorrhagias in all stages of pregnancy, labor, or delivery, and during the puerperium; it is also a much safer remedy in the hands of midwives than ergot of rye.

Who may Operate in England.—Dr. W. S. Playfair (*Lancet*), in his valedictory address at King's College Hospital, London, said that every one who had the honor to belong to the College of Physicians was proud of it, and fond of it, but it was a very ancient institution, and like other ancient institutions it was not free from traditions and prejudices that are not altogether wise. Moreover, it had a good many fellows who were by nature fine old erusted Tories, whom every one loved and respected, who would like to keep the college very much as it was in the time of Henry VIII. Possibly some of these might still object to obstetric physicians operating when they had an aptitude for doing so, and have such work to do. But if such views were still held, as was not unnatural, they had never done any practical harm. Under the judicious guidance of its successive presidents, the College of Physicians had been as progressive as such an institution can be expected to be, or, indeed, in his opinion, ought to be.

But he was told, for he had not himself seen it, that there was a cloud at present no bigger than a man's hand, rising in another quarter. He was given to understand that our friends the hospital surgeons—or some of them—dismayed, he hoped, by the operative successes of their obstetrical colleagues, were beginning to clamor for protection, and were agitating for the enactment of a rule that no obstetrician was to operate unless he was a fellow of the Royal College of Surgeons.

A man's skill as an operator depended on his brains and on his fingers, not on the letters he wrote behind his name. He knew fellows of the College of Surgeons whom he would not trust to vaccinate a baby, and he knew fellows of the College of Physicians to whom he would unhesitatingly confide any operation they chose to undertake; and, *per contra*, if he were called to choose as obstetric physician to a hospital between a man who was an M. D. and F. R. C. P. Lond. whom he knew to be an inferior man, and a man who was a simple M. R. C. S. whom he knew to be a superior man, he would certainly select the better man of the two, irrespective of his qualifications.

The plain fact was, and it was one which could not be got over, that the evolution of medicine had produced a class of practitioners who were and must be "physicians and surgeons" in a higher sense, and the sooner sensible and unprejudiced men reconciled themselves to their existence the better.

The Extract of Suprarenals as a Stimulant in Dangerous Chloroform Narcosis.—Dr. F. A. Magnkovsky, in the *Russian Archives of Pathological Anatomy* (*American Medico-surgical Bulletin*, May 10th), presents the following conclusions which he has reached after a series of observations made upon dogs for the purpose of testing the action of the suprarenal extract upon these animals when they had been narcotized by chloroform almost to the point of arrest of the heart and respiration:

1. The intravenous injection of the suprarenal extract is capable of saving the life of dogs suffering from extreme chloroform narcosis. 2. Compared with the

procedures of other investigators, notably those of Schüller, Laborde, and of König Maas, intravenous injections of the extract are preferable on account of its more rapid action. 3. Extract of suprarenals exercises a marked influence upon the respiration, the blood-pressure, and the tone of the heart muscles even in such small amounts as from fifteen to thirty grains of a one-per-cent. solution. Hence it should be borne in mind that it is a powerful remedy and should not be given in large doses. 4. During chloroform narcosis it is wise to have prepared a fresh solution of suprarenal extract, preferably sterilized by boiling, in order to controvert any sudden collapse. 5. The best results, in cases of imminent death due to chloroform, are obtained by means of combined procedures—such as intravenous injections of suprarenal extract, massage of the cardiac region, and the subcutaneous injection of physiological salt solution.

The American Neurological Association.—The twenty-fourth annual meeting will be held in New York on May 26th, 27th, and 28th, under the presidency of Dr. M. Allen Starr. The preliminary programme contains the following titles: The Combined Symptoms of Myxœdema and Graves's Disease, by Dr. William Osler, of Baltimore; A Contribution to the Surgery and Pathology of the Gasserian Ganglion, by Dr. W. W. Keen and Dr. William G. Spiller, of Philadelphia; A Case of Syringomyelia—Two Cases of Tabes with Sensory Dissociation, by Dr. Hugh T. Patrick, of Chicago; A Report of a Case of Non-traumatic Purulent Pachymeningitis, with Autopsy, by Dr. William M. Leszynsky, of New York; A Case of Landry's Paralysis, with Necropsy and Microscopical Examination, by Dr. Charles K. Mills and Dr. William G. Spiller, of Philadelphia; A Case of Alcoholic Meningitis Simulating Brain Tumor—A Case of Friedreich's Ataxia presenting Some Unusual Features, by Dr. Theodore Diller, of Pittsburgh; On Myotonia, by Dr. George W. Jacoby, of New York; A Summary of the Symptoms found in Sixty-one Cases of Locomotor Ataxia, by Dr. W. H. Riley; The Prognosis and Treatment of Compression Lesions of the Cord, by Dr. Græme M. Hammond, of New York; Congenital Facial Diplegia, by Dr. H. M. Thomas; On Scleroderma, by Dr. F. X. Dercum, of Philadelphia; A Consideration of the General and Special Clinical Aspects of Herpes Zoster, by Dr. Leonard Weber, of New York; A Case of Amyotrophic Lateral Sclerosis presenting Bulbar Symptoms, with Autopsy and Microscopical Studies, by Dr. F. X. Dercum and Dr. W. G. Spiller, of Philadelphia; The Neurological Aspect of Public School Education, by Dr. John Punton, of Kansas City; Family Periodical Paralysis, by Dr. E. W. Taylor; The Pathological Anatomy of Amaurotic Family Idiocy, by Dr. William Hirsch, of New York; Some Considerations upon the Significance of the Metaplasm Granules of the Neurone, by Dr. Ira Van Gieson, of New York; A Case of Syphilitic Multiple Neuritis, by Dr. Frank R. Fry, of St. Louis; A Report of a Case of Amaurotic Family Idiocy, with Autopsy, by Dr. Frederick Peterson, of New York; The Pupil in Intracranial Hæmorrhage, by Dr. George J. Preston, of Baltimore; A Report of a Case of Cerebellar Tuberculosis, by Dr. V. P. Gibney, of New York; A Note on the Temperature in Nervous and Mental Inefficiency, by Dr. Smith Baker, of New York; The Results of Thyreoidectomy in Eight Cases of Graves's Disease—Presentation of a Case of Graves's Disease with Double Optic Neuritis (Choked Discs), by Dr. J. Arthur Booth; Experimental Researches on the Localization of the Sympathetic Nerve in the Brain and Spinal Cord, with Contributions to the Physiology of the Sympathetic, by Dr. B. Onuf and Dr. Joseph Collins, of New York; A Note on Detecting in Perspiration the Use of Cocaine by Habitués, by Dr. Richard Dewey, of Milwaukee; A Case of Huntington's Chorea, with Remarks on the Propriety of Naming the Disease Dementia Choreica, by Dr. Frank K. Hallock, of Cromwell, Connecticut; and Reflections on the Nosology of the So-called Functional Diseases, by Dr. Joseph Collins, of New York.

The New Hampshire Medical Society.—The one hundred and seventh anniversary meeting will be held in Concord on Thursday and Friday, May 26th and 27th, under the presidency of Dr. Moses C. Lathrop, of Dover. In addition to the president's address, the programme includes the following papers: The Hippocratic Oath and Medical Ethics, by Dr. George H. Parker, of Concord; The Value of the Proper Equilibration of the Nervous System and its Influence on Health and Disease, by Dr. M. T. Stone, of Troy; Foreign Bodies in the Eye—Inflammation of the Middle Ear, by Dr. Louis W. Flanders, of Dover; A Report of Diseases of the Middle Ear in General Practice, by Dr. A. H. Harriman, of Laconia; On Puerperal Eclampsia, by Dr. George H. Saltmarsh, of Lakeport; On Puerperal Paralysis, by Dr. J. A. Craig, of Westmoreland; The Inefficiency of Local Boards of Health in New Hampshire, by Dr. F. A. Smith, of Lebanon; A Report of Five Cases of Intestinal Obstruction, by Dr. Le Roy Newton, of Walpole; Diseased Conditions of the Human System and their Conservative Treatment, by Dr. George H. Guptill, of Raymond; Adenoids and their Complications in Children, by Dr. F. E. Kittredge, of Nashua; A Report on Cerebral Surgery, by Dr. Ira J. Prouty, of Keene; A Report on Necrology, by Dr. J. J. Berry, of Portsmouth; Medical Registration, by Dr. George Cook, of Concord; The Use of Antistreptococcic Serum in Septicæmia following Abortion, by Dr. O. D. Eastman, of Woodsville; and The Use of Formalin in Surgery, by Dr. Granville P. Conn, of Concord.

The Fifth District Branch of the New York State Medical Association.—The fourteenth annual meeting will be held in Brooklyn, on Tuesday, May 24th, under the presidency of Dr. N. W. Leighton, of Brooklyn. The following papers will be presented for discussion: The Pathology and Treatment of Gonorrhœa in Men, by Dr. Robert W. Taylor; Urethral Strictures, by Dr. J. W. S. Gouley; Gonorrhœal Rheumatism, by Dr. William E. Beardsley, of Brooklyn; Gonorrhœal Ophthalmia in Adults, by Dr. Lawrence Coffin, of Brooklyn; The Moral Prophylaxis and the Ethical Duty of Physicians to the Public, by Dr. William McCollum, of Brooklyn; The Medico-legal Responsibility of Physicians to their Patients and Patients' Friends, by Dr. J. C. Bierwirth, of Brooklyn; The Symptoms and Diagnosis of Gonorrhœa in Women, by Dr. L. Grant Baldwin, of Brooklyn; The Palliative Treatment of Gonorrhœa, by Dr. Walter B. Chase, of Brooklyn; The Operative Treatment of Gonorrhœa, by Dr. Frederick H. Wiggin. Papers on the subject of Gonorrhœal Ophthalmia in Infants will be presented by Dr. N. L. North, Jr., Dr. A. Mathewson, and Dr. L. A. W. Alleman, of Brooklyn.

Original Communications.

THE ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM AND ITS CONSTITUENT NEURONES,

AS REVEALED BY RECENT INVESTIGATIONS.

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V.

THE NEURONE AS THE UNIT IN PHYSIOLOGICAL AND PATHOLOGICAL PROCESSES.

The cell doctrine and the nervous system—Physiology of the neurones—The metabolism and nutrition of neurones—Effect of alteration in blood supply—The food stuffs and excretory products of neurones—Constancy of the function despite continual change—Changes which occur in a part severed from the rest of the neurone—Wallerian degeneration—Türck's degeneration—Effect on the whole neurone of injury to one or more parts of it—Changes following amputations—Experiments of v. Gudden, Forel, and others—Application of method of Marchi to the study of the central stump of a divided nerve—Studies of Nissl on changes in the cell-bodies of neurones after section of their axones—Effects of injuries to dendrites—Effects of injuries to the cell-bodies of the neurones—Changes in lumbar cord after ligation of abdominal aorta—Experimental production of secondary degenerations—Value of the method of Marchi and the method of Nissl for pathological studies—The neurone as a whole a trophic unit—Regeneration of nerve fibres and nerve cells.

The phenomena of irritability of the neurones—Applicability of the law of the conservation of energy in the domain of animal life—The problems to be solved—Unremitting character of the activity of the neurones—The majority of the nervous processes unconscious—Significance of the so-called "subconscious" and "infraconscious" centripetal and centrifugal impulses—Question of spontaneity of neurone activity—The specific energies of nerves—Participation of all parts of the neurone in the phenomena of irritability—Functions of the cell-bodies—Views regarding the nature of the dendrites—Direction followed by nerve impulses in their passage through neurones—Cellulipetal and cellulifugal conduction—Theory of the dynamic polarity of the nerve elements—Question of possibility of conduction in both directions in axones and dendrites.

The relations of trophic changes to nervous functions—Influence of repose and activity upon the neurones—Studies of Hodge upon the histology of fatigue—Studies of Vas, Mann, Lugaro, and others—Changes in the neurones in intoxications and infections—Comparison of primary lesions in the cell-bodies of neurones with those secondary to lesions of axones—Theories concerning trophicity.

Almost forty years have passed since Virchow, in his *Cellular Pathology*, gave expression to the conviction that every animal appears as a sum of vital units, each of which exhibits in itself all the characteristics belonging to life. It was his belief that the character and the unity of life are referable not to any single locality of a higher organization—for example, to the brain of man—but rather to the definite constantly recurring arrangement (*Einrichtung*) which every single element bears within itself. According to this view, the composition of a larger body, of the so-called individual, always depends upon a social arrangement; it represents, in fact, a social organism, in which there is a mass of single existences related to one another in such a way that every element has its own special activity, and each, even when incited to activity by other parts, does its work of itself. While this concept, which led to a revolution in the prevailing ideas regarding pathology, was accepted for the body in general, its application to the nervous system, and especially to the brain, was for a long time very little emphasized and only recognized in a vague sort of way. And indeed this can hardly be matter of surprise when we consider the crudeness of knowledge at that time of the structures concerned. But with the establishment of the neurone concept of the nervous system the importance and applicability of such a view of its constituent organs can be more fully appreciated. Only after it had been clearly shown that the nervous system, like all other tissues, consists of elements more or less completely isolated and independent, and connected with one another apparently only by contact and not organically, and after we had learned to recognize the different structures which belong to the single elements, could the study of the functional units in the nervous system be satisfactorily approached. An extensive series of physiological and pathological data concerning nerve cells and nerve fibres has been accumulated. Many of these data appear to be discordant or even actually contradictory. It will be of interest to consider briefly how some of them appear when regarded from our new visual angle, and to see in how far the new doctrine has brought into agreement results which were formerly adduced on both sides in support of conflicting views.

In a systematic description of the physiology of the neurones it would be necessary to consider not only the functions which they possess in common with all cells, including such fundamental phenomena as those of metabolism and reproduction, but also those which are peculiar to neurones in general and to neurones in particular. The facts already collected bearing on these points, if adequately discussed, would demand the space of a volume of considerable size, although they represent but an infinitesimal amount of knowledge compared with that which is still needed to explain all the complicated manifestations of the various parts of the nervous mechanism of mammals. I shall bring forward at this time only a few of the physiological and pathological considerations which seem to be of especial importance in relation to the morphological characteristics previously outlined. It will be most convenient to divide these into three classes: (1) Those bearing upon the metabolism of the neurones, (2) those concerning the phenomena of irritability as manifested by the neurones, and (3) those referring to the interdependence of the trophic function and the manifestations of irritability. From a discussion of these it will be found that the physiological independence of the neurone is as marked a feature as might have been expected from our knowledge of its morphology.

The Metabolism and Nutrition of Neurones.—To the study of the nutritive processes in neurones or their metabolism—anabolic and catabolic—attaches a high degree of interest, although the subject is attended with great difficulties. Like all other cells of the body, the living neurones take up food materials into their substance, transform them, and gradually build them up through a series of synthetic processes into highly complex and extremely labile chemical compounds, which, in turn, undergo a series of decomposition reactions which culminate finally in the formation of more or less simple bodies, which we recognize as the excretory products of neurone metabolism. There is every reason to believe that in these various modifications of chemical materials by means of which the potential energy of the food is transformed into the kinetic energy which gives rise to what are called the "vital" manifestations of the neurones, chemical compounds come into existence, in some of the neurones at least, of a degree of complexity scarcely approached elsewhere on this planet, and before the nature of which the most advanced organic chemist stands utterly powerless and despondent. It is in the nervous system of all parts of the human body that the delicacy and complexity of the chemistry of metabolism are most in evidence. It is there that we find the best examples of the extreme instability of the "living" substances, in that the slightest influence will often suffice to bring about remarkable transformations and extensive functional manifestations in the cells. To quote from Pflueger: "What infinitesimally small active forces acting in a ray of light call forth the most powerful effects in the retina and in the brain! How entirely minimal are the active forces of the nerves; what wonderfully minute quantities of certain poisons suffice to completely destroy a large living animal!"

The dependence of the neurones upon nutritive influences is well shown in certain circulatory disturbances. When the nutrition of the brain falls below a certain minimum the mental capacities become clouded or may even vanish. In fainting, we have the proof that without an adequate supply of oxygenated blood complete consciousness can not be maintained even for a second. The blood supply to the nervous system is extremely well provided for by the circulatory apparatus of the brain and spinal cord, though there would appear to be a grave imperfection in the arrangement of the arterial system which terminates in the so-called end arteries, so that the blocking of a single one leads unavoidably to the death of the territory supplied by it.

As to the nature of the substances which represent the raw food stuffs of the neurones, we have as yet but little definite information. While ultimately the substances taken up as food stuff by the neurones must be derived from the general food ingested by the individual, this must undoubtedly have undergone most marked alterations before being presented to the nerve cells in the blood and lymph as material suitable for their sustenance. There is considerable evidence that some of the material at least must have already played a part in the metabolism of other organs, and, in a sense, as their excreta have first been rendered suitable for use by the nerve cells. The physiological law formulated so long ago, accredited to Treviranus, is probably as true for the nervous system as for the other organs of the body. A possible example of this is seen in the thyreoid metabolism; in the absence of substances in the body derived from the thyreoid gland, the nervous system undergoes very important and serious metabolic modifications evidenced by the remarkable nervous and mental phenomena with which all are now familiar. On restoring these substances to the body by the administration of a thyreoid extract the symptoms may sometimes be made to disappear.* It is likely, however, that the neurones find their staple foods in the main nutritive constituents of the blood as derived from the food digested in the stomach and intestines and purified by the lymph glands and liver. That the stainable substance of Nissl may represent deutoplasm—the contents of the larders of the nerve cell—is not at all improbable, inasmuch as Held † has pointed out that they yield the reactions characteristic of the nucleo-albumins.

There can be but little doubt that the individual neurones select from the blood or lymph quantities and varieties of food stuffs corresponding to their individual needs, and it is still more certain that the constructive metabolism in one neurone or set of neurones varies from that in another within certain limits which, though perhaps usually narrow in some instances, must be tolerably wide. Failing this, it would be impossible to understand, even with varying correlations, the different functional manifestations of which the individual neurones and groups of neurones in different parts of the nervous system are capable.

One striking feature in neurone metabolism is particularly to be noted. With chemical processes ever in progress, with syntheses and decomposition reactions going on all the time, the one set of reactions predominating perhaps at one moment, the second at another, both classes of changes occurring now with great rapidity and again with comparative slowness, but in any case always continuously—with all this "perpetual flux"—a certain constancy of structure and function is maintained. The best evidence, perhaps, of this physiological constancy, notwithstanding continual change (*Dauer im Wechsel*), is to be found in the consideration of the phenomena of memory. We now know that when certain cells are destroyed by disease or removed by the knife of the surgeon, the capacity for calling up certain memory pictures is lost. Certain psychical elements or constituents which had faded from consciousness, but could be reinstated by secondary suggestion before the cells were destroyed or removed, can afterward be no longer revived. This fact would almost justify us in believing that the "memory traces" are in some way or another laid down in the neurones and are actually organically connected with them. These neurones with which the memory traces are in some way associated are continuously undergoing the metabolic changes, such as have just been described, and the wonder is not that we have such poor memories, but that they are as good as we find them to be. Far from being surprised that the reproduction of past experiences in consciousness is occasionally unfaithful, we can only wonder how it can reach the degree of accuracy with which we are familiar.

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* This assumption does not, of course, exclude the possibility that the relation of the thyreoid to the nervous system may consist in the destruction or neutralization by the products of the former of a substance or series of substances which are inimical to the latter. In any event the disturbances in the neurones must be thought of as metabolic in character.

† This writer terms them the "rolling stock" (*Betriebsmaterial*) of the nerve cells.

While emphasizing the maintenance of a certain constancy of function and consequently of structure despite the unending chemical alterations going on, we must admit that the metabolism in no individual is perfectly constant. This is shown in the first place, should illustration of what is so obvious be demanded, under normal conditions in the gradual increase and development of the faculties of the nervous system in early and middle life, and in their gradual decay as the end is approached. Again, taking memory once more for an example, it is probable that no reproduction of past experience is absolutely accurate, nor is the attempt to recall one and the same experience on two different occasions attended by the appearance in consciousness of exactly the same mental picture. Even when the focal constituents in consciousness are almost or precisely the same, the marginal setting of so-called "subconscious" elements may be at the two times entirely different. There is always more or less variation, the differences being often, perhaps, scarcely recognizable, but none the less existing.* A whole array of evidence could be brought forward demonstrating functional alterations dependent upon disturbances of neurone metabolism through deprivation of nutriment, the action of toxic agents, and other pathological influences. But even in these abnormal states it is the constancy of the function which impresses us most; the fact that, given a nervous system made up of a certain set of neurones, the activities inherent in them must necessarily lead to the manifestations of certain definite functional characteristics, the alterations capable of occurring under changes of environment,* internal and external, normal and pathological, being compressed within certain rather narrow limits, limits which grow more and more restricted apparently with the increase of the age of the individual.†

The astronomer, supplied with certain data concerning the speed and direction of a given planet controlled in its motion by the attraction of definite forces, can predict with precision the position it will occupy at a given moment in the future. The botanist, informed of the species to which a given vegetable organism belongs, can foretell with tolerable accuracy what its behavior will be under given conditions of soil and climate. Were it permissible to introduce here an opinion, I should not hesitate to say that I am convinced that the laws underlying neurone metabolism ‡ are just as fixed and constant as are those of astronomy and botany, and can conceive of a knowledge of their nature and action which would enable him possessed of it to prophesy unerringly of the functional manifestations of a nervous system made up of a given set of neurones which must result upon exposure to a given environment. That the neurologist is almost infinitely distant from any approximation to such astronomical accuracy with regard to the nervous system it is needless to remark. That he may never attain to such omniscience is altogether probable. But the fact that he has already learned that in the nervous system certain causes are followed by certain definite effects almost with mathematical accuracy should encourage and stimulate him to further research with the hope that the intricate laws in question may gradually be rendered less obscure and vague.

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* This idea had not its birth with modern physiologists, for did not the wise Diotima of Mantineia tell it long ago to Socrates? Let me quote from The Symposium of Plato (Jowett's translation):

"For even in the same individual there is succession and not absolute unity; a man is called the same; but yet in the short interval which elapses between youth and age, and in which every animal is said to have life and identity, he is undergoing a perpetual process of loss and reparation—hair, flesh, bones, blood, and the whole body are always changing. And this is true not only of the body but also of the soul, whose habits, tempers, opinions, desires, pleasures, pains, fears, never remain the same in any one of us, but are always coming and going. And what is yet more surprising is, that this is also true of knowledge; and not only does knowledge in general come and go, so that in this respect we are never the same, but particular knowledge also experiences a like change. For what is implied in the word 'recollection' but the departure of knowledge, which is ever being forgotten, and is renewed and preserved by recollection, appearing to be the same although in reality new, according to that law of succession by which all mortal things are preserved, not by absolute sameness of existence, but by substitution, the old worn-out mortality leaving another new and similar one behind—unlike the immortal in this, which is always the same and not another. And in this way, Socrates, the mortal body, or mortal anything, partakes of immortality; but the immortal in another way. Marvel not, then, at the love which all men have of their offspring, for that universal love and interest is for the sake of immortality." The germ of the idea is also recognizable in the speculations of Heraclitus, and possibly in those of Anaximander.

* In this connection the articles of Driesch, Herbst, and Loeb upon the effect of environment upon development may be read with profit. External stimuli can and undoubtedly do exercise an important influence upon development, but the character of the response is determined by the inherited organization.

† If the conviction expressed in the text be well founded, then, broadly speaking, *as his neurones are, so the man is.* In this sense Goethe's words, in the mouth of Mephistopheles, can be made to bear a new and almost prophetic significance:

"Du bist am Ende—was Du bist.
Setz Dir Perrücken auf von Millionen Locken,
Setz Deinen Fuss auf ellenhohe Socken,
Du bleibst doch immer, was Du bist."

‡ The same remark has already been made regarding sociology in *Social Rights and Duties*, by Leslie Stephen.

As regards the trophic relations of the neurones, it may without further preamble be asked (1) In how far is the nutrition of the individual portions of a neurone affected by an interruption of their connection with the rest of the neurone? (2) In how far, if at all, does the whole neurone suffer as a result of injury to any one of these individual constituents? In attempting to reply to both these questions it will be found that we possess data to draw upon which regard not all, but certain only of the individual portions of the neurone. We shall find, too, that an answer to one question must from the nature of things include a reply to the other. That the formulation of the two questions as just adopted is not superfluous will readily be granted, in that the contemplation of the subject from the two different standpoints will help us materially in understanding the reciprocal relations which recent research has demonstrated to exist.

As long ago as 1839, Nasse * and Valentin † had proved that interruption of the connection of peripheral nerves with the central nervous system could lead to their degeneration. Their findings were confirmed by Stannius.‡ Waller # made a thorough study of the subject and formulated the fundamental law of the physiology and pathology of the nervous system known by his name. By Wallerian degeneration we understand the changes which take place in the distal end of a peripheral nerve after it has been cut through. The details are familiar to every medical student, the coagulative breaking up of the myelin sheath, the dissolution of the axis cylinder, the neurilemma with its nuclei remaining for some time at least preserved (Fig. 89). Waller proved that if a motor nerve was severed there resulted complete degeneration of the fibres in the peripheral end, even to the muscles which they govern, the central end remaining apparently intact. As a matter of fact, the changes characteristic of Wallerian degeneration could not, as a rule, be traced farther in the central end than to the first node of Ranvier. If a sensory nerve is cut through peripheral to a spinal ganglion there ensues complete degeneration of the sensory fibres as far as the sensory surfaces in which they begin.* It was further shown by similar experiments that if the dorsal root of a spinal nerve was cut through at a point between the ganglion and the spinal cord, the portion of the nerve attached to the ganglion did not undergo the typical degeneration, while the portion still connected with the cord showed the characteristic degenerative phenomena, which could be traced throughout the whole course of its constituent fibres in the dorsal funiculi of the cord. The cells of the spinal ganglia have therefore been looked upon as trophic centres for the peripheral sensory nerves and their intramedullary continuations. This explanation was much simplified by the work of His, who demonstrated that the axone of the peripheral sensory fibre, the spinal ganglion cell, and the

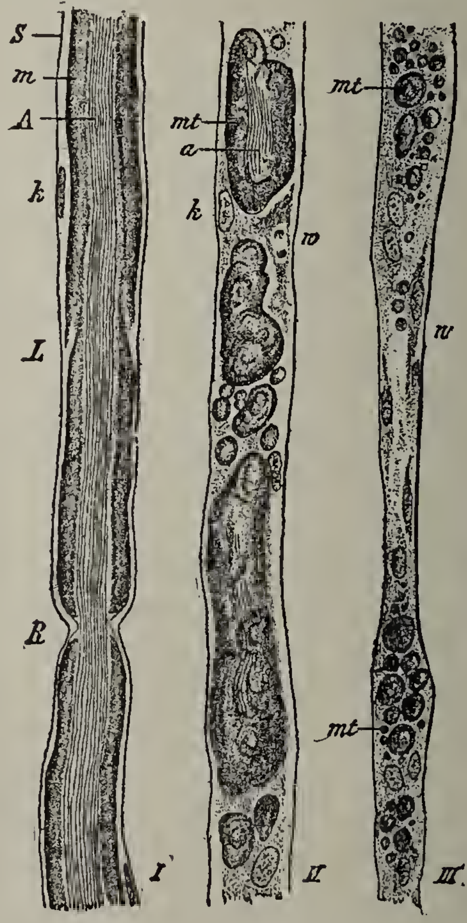

Fig. 89.—Wallerian degeneration of nerve fibres after section. *I*, normal nerve fibre; *II* and *III*, fibres showing different degrees of degeneration; *S*, neurilemma; *m*, medullary sheath; *A*, axone; *k*, nucleus of neurilemma cell; *L*, marking of Lantermann; *R*, node of Rauvier; *mt*, drops of myelin; *a*, remains of axone; *w*, proliferating cells of neurilemma. Partly schematic. (After Thoma.)

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* Nasse. Ueber die Veränderungen der Nervenfasern nach ihrer Durchschneidung. Müller's *Arch. f. Anat.*, 1839, S. 405.

† Valentin, G. *De functionibus nervorum cerebralium et nervi sympathici*, libri quattuor. Bernæ, 1839.

‡ Stannius. Untersuchungen über Muskelreizbarkeit. Müller's *Archiv*, 1847, S. 443.

# Waller, A. Experiments on the Section of the Glossopharyngeal and Hypoglossal Nerves of the Frog, and Observations of the Alterations produced thereby in the Structure of their Primitive Fibres. *London, Edinburgh, and Dublin Philosophical Magazine*, p. 3, vol. xxxvii, No. 247, p. 65, July, 1850. Also in *Philosophical Transactions of the Royal Society of London*, 1850, p. 423.—Sur la reproduction des nerfs et sur la structure et les fonctions des ganglions spinaux. Müller's *Archiv*, 1852, S. 392; *Comptes rendus hebd. des séances de l'Acad. des sc.*, t. xxxiv, p. 675.—Nouvelle méthode pour l'étude du système nerveux, applicable à l'investigation de la distribution anatomique des cordons nerveux, et au diagnostic des maladies du système nerveux, pendant la vie et après la mort. *Comptes rendus hebd. des séances de l'Acad. des sc.*, Par., t. xxxiii, 1851, p. 606.

* This appears to hold even for the sensory nerves connected with elaborate end-organs, such as Meissner's corpuscles, although for a time these were thought to be exempt.

axone of the nerve fibre of the dorsal funiculus all represented parts of one and the same cell.

These degenerations in the domain of the peripheral nervous system were early shown to occur also within the confines of the central nervous system, the secondary descending degeneration of the pyramidal tract established by Türck [*] and the ascending secondary degeneration in the spinal cord after transverse lesion being quite analogous. We now know that the axis cylinders of the dorsal root fibres, with the exception of the few centrifugal fibres present in them, are axones of neurones whose cell bodies are situated within the spinal ganglia. We know that the axones of the motor peripheral nerves arise from the cell bodies of neurones situated within the anterior horns of the spinal cord, and that the axis cylinders of the fibres of the pyramidal tract are axones whose cells of origin are situated in the cerebral cortex. Converting, then, the Wallerian doctrine into terms of the neurone concept, the following general law may be laid down: Whenever it has suffered a solution of continuity, severing its connection with the cell body and dendrites of the neurone to which it belongs, the axone, together with the myelin sheath covering it, undergoes in the part distal to the lesion acute and complete degeneration. This degeneration includes not only the main axone, but also its terminals, together with the collaterals and their terminals connected with it.[†] There has gradually developed, therefore, a general belief that what are called the "nerve cells" represent trophic centres for the nerve fibres in general. The application of the Wallerian doctrine has aided immensely in unraveling the complicated relations existing inside the central nervous system. Thus in a transverse lesion of the cord, for the bands of fibres which degenerated in sections above the site of the injury (Fig. 90), the "trophic centres" (*i. e.*, their cells of origin) were to be sought below this level, and *vice versa*, the cells of origin for tracts degenerated in sections below the level of injury (Fig. 91) must be situated somewhere above this level.

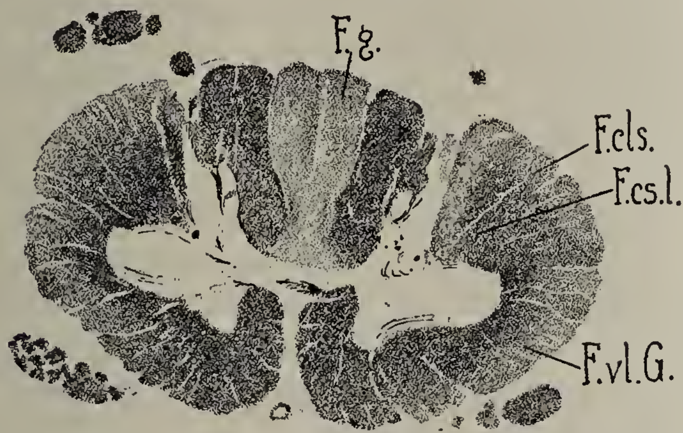

Fig. 90.—Section stained by Weigert's method through the cervical cord of a woman, showing secondary degenerations following compression of the cord at the level of the second thoracic segment; *F. g.*, fasciculus gracilis; *F. cls.*, fasciculus cerebellospinalis (direct cerebellar tract); *F. cs. l.*, fasciculus cerebrospinalis lateralis (lateral pyramidal tract); *F. vl. G.*, fasciculus ventrolateralis Gowersi. Since the fibres in the fasciculus gracilis and many of those in the fasciculus cerebellospinalis and in Gowers's tract degenerate upward from the site of lesion, their cells of origin must be situated below the level of the second thoracic segment. The pyramidal tract is not degenerated; the cells which give origin to its axones are situated above the lesion.

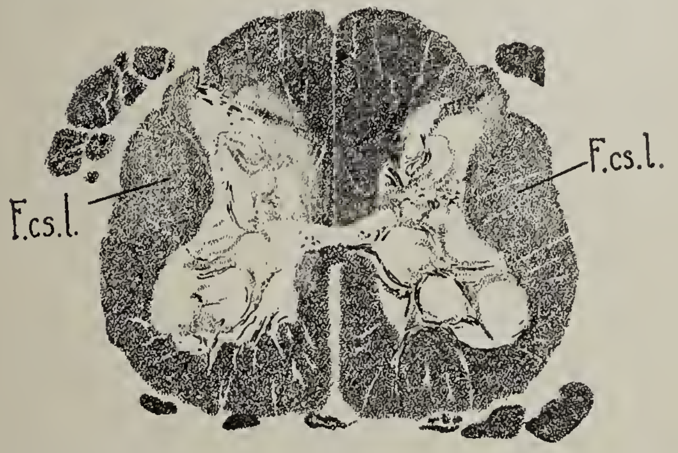

Fig. 91.—Section stained by Weigert's method through the lumbar cord of a woman, showing secondary degenerations following compression of the cord at the level of the second thoracic segment. Fasciculus cerebrospinalis lateralis (*F. cs. l.*) is degenerated. The cells of origin of its axones are situated above the lesion (in the cerebral cortex).

Since the time of Waller and Türck the histology of the degeneration of nerve fibres after separation from their cells of origin has been studied by many—notably by Ranvier,[*] Homén,[†] Howell and Huber, and Tooth.[‡] The latter, in the interesting Gulstonian Lectures for 1889, has reviewed succinctly the facts up to that date. The studies of von Notthaft [#] are of especial value, in that they have yielded definite information concerning the state of the nerve fibres at various periods after the lesion. This investigator divides the changes which occur in a nerve after section into two stages. The first stage includes the alterations which occur during the first three days. These alterations, which consist in fragmentation of the myelin and of the axone in the first one or two internodes on each side of the lesion, are, Notthaft believes, the direct result of the trauma. The true Wallerian degeneration (or the second stage) begins on the second or third day in the fibre distal to the lesion, and is the result of severance of connection with the central end, and not the direct result of the trauma. The axone swells and fragments, and the myelin breaks up into droplets along the whole length of the nerve. Multiplication of the nuclei of the neurilemma is evident at the fourth day. At the sixth or seventh day liquefaction of the myelin commences, and this continues until the sixtieth or eightieth day, by which time all the myelin has been liquefied and a large part of it has been absorbed. After three or four months the myelin has entirely disappeared.

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[*] Türck, Ludwig. Ueber secundäre Erkrankung einzelner Rückenmarksstränge und ihrer Fortsetzungen zum Gehirne. *Sitzb. d. k. Akad. d. Wiss.*, math.-naturw. Cl. Wien, 1851, März Heft.

[†] Studies of degeneration of the spinal cord will convince any one of the accuracy of this statement regarding the collaterals.

[*] Ranvier, L. *Leçons sur l'histologie du système nerveux*, Paris, 1878.

[†] Homén, E. A. Experimenteller Beitrag zur Pathologie und pathologischen Anatomie des Rückenmarks (speciell mit Hinsicht auf die secundäre Degeneration). *Fortschr. d. Med.*, Bd. iii (1885), p. 267; *Contribution expérimentale à la pathologie et à l'anatomie pathologique de la moelle épinière.* Helsingfors, 1885, pp. 112, 7 pl., 8vo.

[‡] Tooth, Howard H. *The Gulstonian Lectures on Secondary Degenerations of the Spinal Cord.* London, J. and A. Churchill, 1889, pp. 1–71.

[#] Notthaft, A. Neue Untersuchungen über den Verlauf der Degenerations- und Regenerationsprocesse am verletzten peripheren Nerven. *Ztsch. f. wiss. Zool.*, Bd. lv, 1893, S. 134–188.

During the secondary degeneration of the white fibres within the central nervous system there is a proliferation of the neuroglia. The multiplication of the neuroglia cells begins in the white matter, according to Ceni,[*] some forty-five or fifty days after the lesion. The neuroglia cells cease to multiply at about the hundredth day, after which there is a gradual disappearance of neuroglia nuclei with gradually progressing sclerotic change.

Owing to the shortness of the dendrites (unless we look upon the peripheral sensory fibre as a dendrite), we possess no exact studies concerning their fate when severed from the cell bodies of the neurones to which they belong, but we have every reason to believe that they would undergo speedy and complete degeneration.

Viewing now the question from the other side, let us examine and see in how far the injury to one portion affects the nutrition of the whole of the rest of the neurone. The study of portions of the nervous systems from individuals who had died a certain length of time after amputation of an extremity soon afforded data which apparently stood in direct contradiction to the doctrine of the trophic centres as formulated by Waller. For, while Waller demonstrated the complete degeneration of the portion of the nerve fibre disconnected with the trophic centre, he maintained the integrity of that portion of the fibre left in connection with it.[†]

As early as 1829 Berard [‡] had noticed that in the spinal nerves supplying a limb amputated some time before there was at autopsy distinct atrophy of the ventral roots. Vulpian, Cruveilhier, Hayem and Gilbert, Dickinson, Friedlaender and Krause, Homén, Vanlair, Grigorieff, and many other investigators busied themselves with the subject, and came to conclusions which were often at variance owing, as has been shown by Marinesco,[*] to the fact that the authors studied and described different phases of the alterations. Marinesco convinced himself that after amputation of a limb, or after section of a peripheral nerve, there occur in the central part definite pathological changes, the intensity of which depends upon the species, and especially upon the age of the animal and upon the length of time intervening between the injury and death. The younger the individual at the time of the amputation and the longer the time elapsing between the operation and death, the more marked are the alterations. The degeneration in the central stump of the divided nerve, although it appears much later than that in the distal portion, presents similar morphological appearances and is apparently an analogous process, although—and herein lies the vulnerable point of the Wallerian doctrine—the central end still maintains its continuity with the "trophic centre." Not only do the sensory fibres distal from the spinal ganglia degenerate, but after a time large numbers of fibres in the dorsal roots proximal to the ganglia and their corresponding fibres with their collaterals and terminals in the dorsal funiculi of the cord undergo pathological changes and totally disappear.[†] The motor fibres of the central stump gradually diminish in number; in some instances they appear to vanish almost totally, and a large number of the motor cells of the ventral horns dwindle in size (Fig. 92), and may after a time be actually lost. The spinal ganglion cells do not show gross alterations for some time after both peripheral or distal fibres have degenerated (Friedländer and Krause, Homén, Vanlair, Marinesco), a finding which denotes that their trophic mechanisms differ in some way from those which are concerned in the nutrition of the cells of the ventral horns. I have thought that this may depend upon the possession by the spinal ganglion cells of a cellular capsule.[‡] It would be interesting to note if the sympathetic ganglion cells, which are also encapsulated, act similarly and preserve their gross integrity after section of the nerve fibres belonging to them. I refer, of course, to gross integrity alone, inasmuch as there is much evidence, some of very recent date, from which we are compelled to believe that the finer structure of the nerve cell is always altered by the cutting through of its axone. According to the researches of Biedl (*vide infra*), cutting of a splanchnic nerve causes both cellulipetal and cellulifugal degeneration.

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[*] Ceni, C. Sur les fines altérations histologiques de la moelle épinière dans les dégénérescences secondaires ascendantes et descendantes *Arch. ital. de biol.*, t. xxvi, 1896, p. 97; also in *Archivio per le scienze mediche*, xx, p. 131.

[†] This seemed to accord well with the well-known fact that some of the sensory nerves proximal to the lesion are capable of functioning for some time after amputation, producing sensations which often may give rise to no little mental disturbance and alarm on the part of the patient, since irritation occurring in the course of a sensory nerve fibre is attributed in consciousness to stimulation of the sensory surface from which it has been in the habit of conducting impulses. The superstition referred to in the old play—

> "Still in his dead hand clinched remain the strings
> That thrill his father's heart—e'en as the limb
> Lopped off and laid in grave, retains, they tell us,
> Strange commerce with the mutilated stump
> Whose nerves are twinging still in maimed existence"—

is not yet obsolete, as any one familiar with many of the rural districts of this country can testify. Mitchell has given an interesting account of some of the sensations described as coming from the lost limbs in his monograph, *Injuries of Nerves*, Philadelphia, 1892.

[‡] Berard. *Bulletins de la Soc. anat. de Paris*, quatrième année, Bulletin No. 3, mai, 1829, deuxième édition, 1846, p. 54.

[*] Marinesco, G. Ueber Veränderung der Nerven und des Rückenmarks nach Amputationen; ein Beitrag zur Nerventrophik. *Neurol. Centralbl.*, Bd. xi, 1892, S. 463, 505, 564.

[†] This variety of change is often spoken of in the bibliography as "atrophy," to distinguish it from the rapid "degeneration" of Waller. Von Monakow, *Arch. f. Psych. u. Nervenkr.*, Bd. xii u. xx, and Mahaim, *Arch. f. Psychiat.*, Bd. xxv, H. 2, S. 361, have laid stress upon this distinction as regards alterations following lesions of the cerebrum.

[‡] Another point to be remembered in explaining the difference in effect of division upon the peripheral motor and sensory nerves is the fact that, if current ideas of conduction are correct, on section of a motor fibre, it is perhaps the discharge of impulses which is prevented, while in the case of the sensory fibre it is at first the reception of impulses which is interfered with. It must not be forgotten, however, that even when a peripheral sensory nerve has been cut through, the corresponding cells in the spinal ganglia may yet perhaps receive some centripetal impulses from the viscera through the rami communicantes.

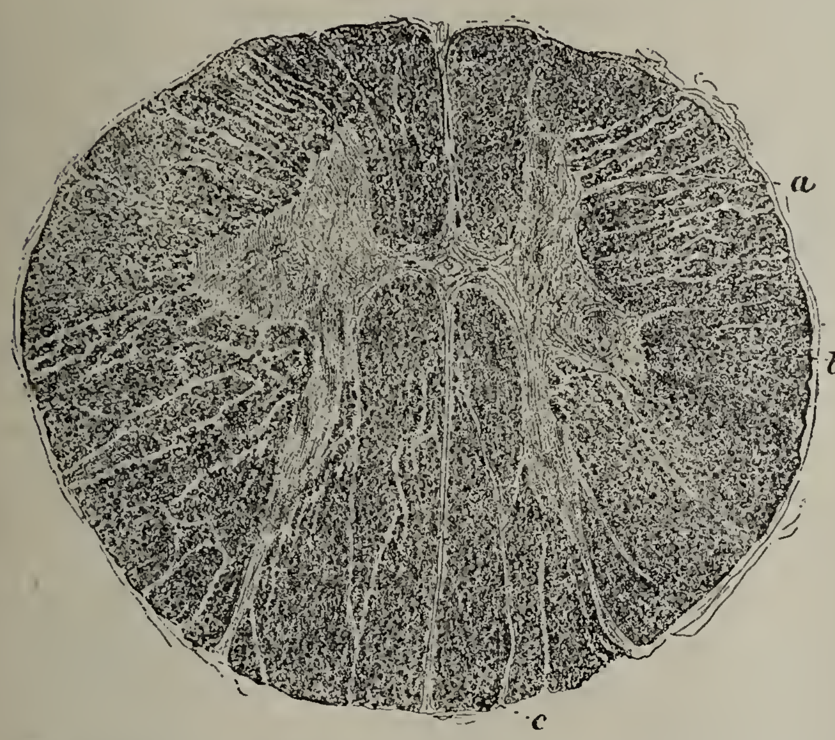

Fig. 92.—Section through human spinal cord at level of thoracic vertebræ showing marked atrophy of right half of cord following amputation of right arm. (After Marinesco.) The ventral horn is especially atrophied, as is also the fasciculus cuneatus in all its parts. The fasciculus gracilis (*c*) is intact. The atrophy of the cells in groups *a* and *b* is very evident.

(*To be continued.*)

URETHRAL AND INTRAVESICAL IRRIGATION.

By CHARLES H. CHETWOOD, M. D.,
ADJUNCT PROFESSOR OF GENITO-URINARY SURGERY AT THE NEW YORK POLYCLINIC COLLEGE AND HOSPITAL.

The treatment of gonorrhœa by irrigation of the urethra with permanganate of potassium, as advanced by Dr. Jules Janet, of Paris, has obtained a hold upon the attention of the general profession, and is being at present largely employed.

In presenting an apparatus to facilitate the application of this mode of treatment I desire to avoid the unqualified indorsement of this particular method to the exclusion of others equally as efficacious. The position to hold at the present day, I believe, is one favoring local antiseptic measures as against the old plan of expectant treatment, which relied upon internal medication, and any agent which can promptly destroy the gonococcus, without undue irritation of the urethra, is likely to prove an effective remedy in the treatment of gonorrhœal urethritis. *No one method is applicable to all cases, no one remedy is unfailing in all stages.* It is not my purpose to enter further into the treatment of gonorrhœa than to make this general observation. Irrigation of the urethra is by no means restricted to this particular class of cases. It is desirable at times before and after the passage of instruments, when subsequent inflammation may be avoided, as well as in connection with operations upon the urethra or bladder. In the latter instance intravesical irrigation with or without a catheter may be employed.

Complete disinfection of the urethra has not as yet been accomplished, but it is largely stated that the best method of avoiding urethral chill, following the use of instruments, is by resorting to the most effective means of disinfection of the canal, together with a delicate handling of the instruments. In the use of drugs for this purpose whose action is not such as to penetrate beneath the immediate surface of the mucous membrane, it is better to employ a large quantity of fluid and a certain amount of mechanical force to distend the canal. Instillations are used for small quantities of strong solutions, which tend to extend into the tissues when left in contact with the surface. Irrigation brings a large quantity of fluid in contact with the entire surface of the canal, and, when properly employed, exercises sufficient force to distend the folds and follicles for the entrance of the fluid.

My own experience has sufficiently taught that the treatment of acute and chronic urethritis by means of irrigations with permanganate of potassium, has, when properly handled, a valuable field of utility; but that it is overdone and improperly employed is an explanation of some of the adverse results and complications produced in the hands of those who have not a due regard for detail in the management of this method of treatment.

Each section of the canal should be irrigated outward before invading the deeper portions. The shut-off muscle should never be forced in acute urethritis, and the permanganate solution never used in sufficient strength to irritate. The beneficial results attending this treatment are, when produced, prompt in their appearance, and when not so it is generally an indication that the microbial agent is deeper in the tissues than is reached by the permanganate solution, and recourse to other means should be had, either alone or in conjunction with a continuation of the irrigation. A judicious usage of this method is deserving of proper indorsement and suitable application. Its popularity has suffered not only from improper handling, but as much from the exaggerated claims of those who are overzealous advocates of its use.

To irrigate the urethra in a satisfactory manner, it is essential to do so not only without damage, but without dirt. The unwieldy apparatus formerly used and the tendency to sprinkle both patient and operator with the irrigating fluid have been the cause of rendering this method unpopular with many. To overcome this objection, and at the same time accomplish free flushing out of the canal with a sufficient amount of distention, it is better to be able to empty the urethra of its contents, after each inflation, without withdrawal of the nozzle of the instrument.

The urethra was formerly irrigated by the introduction of a catheter or by means of an ordinary blunt nozzle fitted to the meatus. The use of the catheter is inefficient, however, for irrigation of the anterior urethra, as proper distention of the canal can not be obtained in this manner. The ordinary blunt nozzle is objectionable on account of the necessity of withdrawal to empty the canal after each inflation. This objection is lessened but not overcome by the addition of the shield protector, as in the Valentine instrument.

Intravesical irrigation is accomplished *with* or *without* a catheter. In the former method it is proper to irrigate the anterior section of the canal prior to the introduction of the catheter. When intravesical irrigation is attained *without* a catheter a sufficient amount of force must be exerted to overcome the resistance of the shut-off muscle. In my judgment this method should never be employed in acute urethritis.

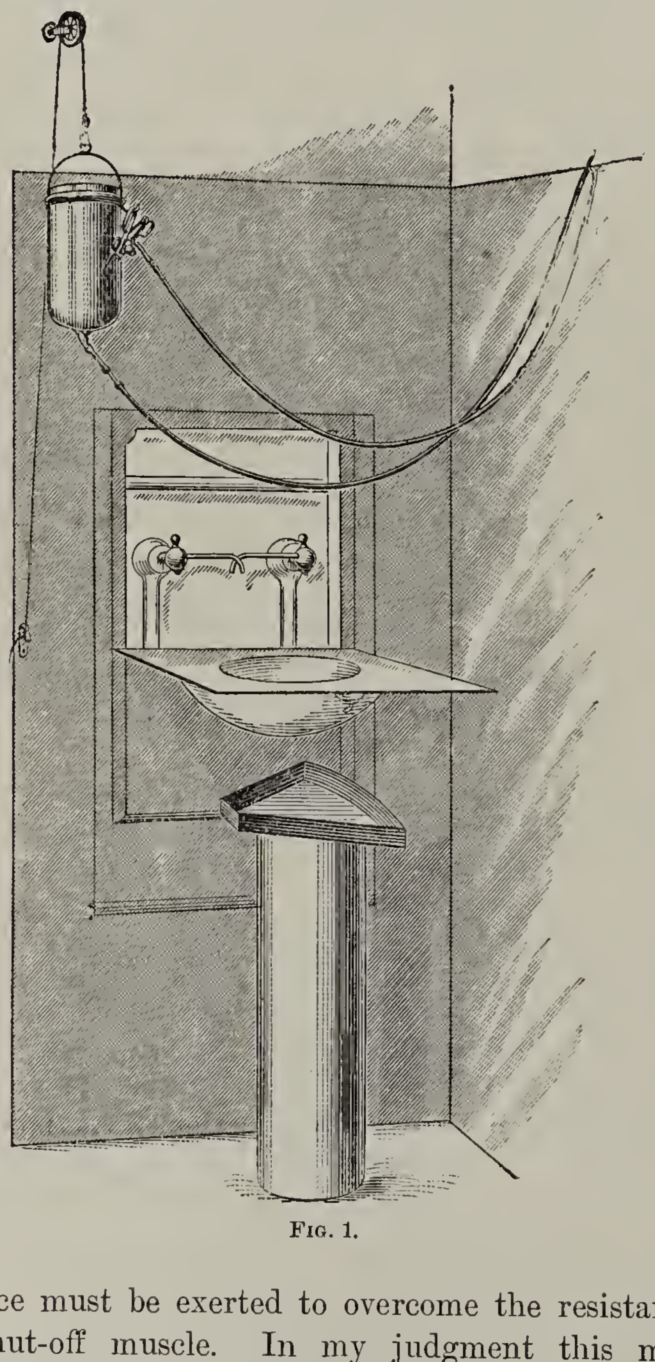

FIG. 1.

My application of the principles of urethral or intravesical irrigations is represented in the accompanying apparatus (Fig. 1), which fulfills the requirements of any of the above methods.

This apparatus consists of a reservoir with proper length of tubing, pulley and catch, and a set of different-sized urethral nozzles with the alternating shut-off.

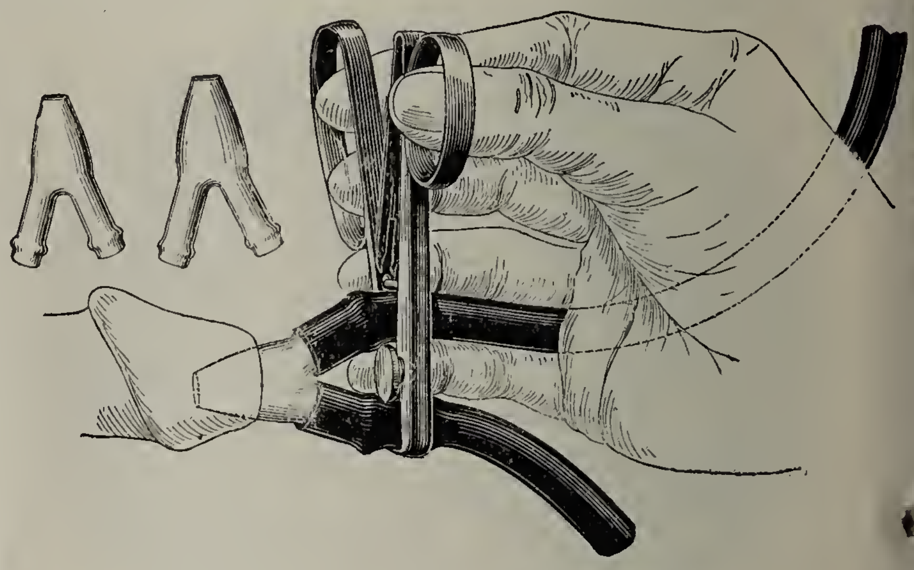

FIG. 2.

The nozzle and alternating shut-off are the distinctive features of this apparatus, and are shown by the accompanying cut in usage (Fig. 2).

The nozzle resembles somewhat the original Keefer nozzle, but is made of glass and has only one opening at the penile extremity, which is intended to be the full size which the meatus will admit, so as to allow a free flow to and from the urethra.

The function of the alternating shut-off (Fig. 3) is to open and close the inflow and outflow tubes.

The method of operating this apparatus for irrigation of the anterior urethra is as follows: The patient stands before the drainage pan, which is placed at a sufficient height upon a pedestal, with the cord controlling the irrigator jar upon his left. The operator sits upon a stool on the right side of the patient. The penis is then grasped in the left hand, the alternating shut-off with nozzle attached is taken in the right hand, and, by pressing the handles together and sliding upward the ring catch on the side, the flow is shut off. The meatus is now properly fitted to the cone-shaped nozzle (Fig. 2), the sliding catch pushed downward with the little finger, and the handles of the instrument allowed to separate by the action of the spring. This opens the inflow and closes the outflow tube, causing the urethra to be distended by the entrance of the fluid

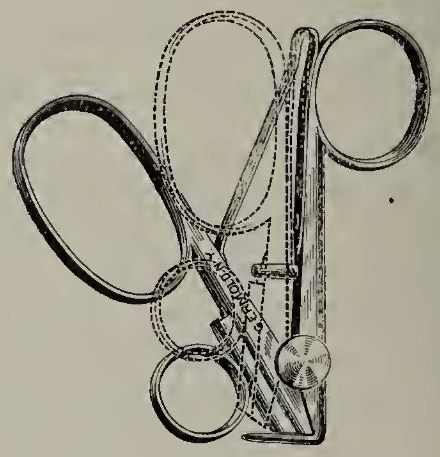

FIG. 3.

from the reservoir, after which the handles are again compressed; the outflow tube being thus opened, and the inflow tube closed, the urethra promptly empties itself without withdrawal of the instrument. By a continuation of this manœuvre a semicontinuous flow is kept up and the anterior urethra is thoroughly and properly irrigated. At the commencement of the operation the irrigating jar should be elevated about four feet and a half, at which height the meatus and first two or three inches of the anterior urethra are washed. This being accomplished, the patient is requested to elevate the jar by drawing upon the cord until the maximum height of about five feet and a half is reached; this height is sufficient for complete distention and irrigation of the anterior section of the canal.

If intravesical irrigation is indicated, and the method without the catheter is employed, the patient is directed to slowly raise the irrigating jar until a sufficient height is reached to overcome the resistance of the shut-off muscle (between six and eight feet). This is best accomplished with the patient in a sitting posture, with the thighs abducted, and during an effort to urinate. For my own part, I prefer the method of employing the catheter for post-urethral irrigation, and am opposed to the adoption under any circumstances of irrigation of the posterior urethra without a catheter in acute urethritis. The method of post-urethral and intravesical irrigation with a catheter is as follows: The anterior urethra is irrigated in the usual manner, after which a small-sized soft-rubber (No. 6 or 7 American) catheter is slowly passed through the urethra until a few drops of urine are obtained, which denotes that the eye of the instrument has reached the neck of the bladder. Having emptied the bladder of its contents, the catheter is withdrawn for about an inch. This brings the eye between the prostatic and membranous urethras. The alternating shut-off and nozzle having been detached from the irrigator tubing and a glass coupling tapered sufficiently small to fit the catheter in the bladder being attached, irrigation of the posterior urethra and bladder is now conducted, a sufficient amount of fluid having been left in the irrigating jar for this purpose. When the bladder is moderately distended the catheter is withdrawn and the patient allowed to pass out the irrigating fluid.

For irrigation of the anterior urethra about a quart of fluid is employed, and for posterior irrigation a pint or less, according to the capacity of the bladder. This method I always employ when irrigating the posterior urethra for acute urethritis. My reason for discountenancing irrigation of the posterior urethra without a catheter in acute urethritis is that I believe it to produce undue irritation in this condition, and that it may be the cause of swelled testicle. These objections I have not found when the catheter is employed, provided the anterior urethra is previously irrigated in a proper manner.

THE ABUSE OF MEDICAL CHARITIES IN PROVINCIAL CITIES.*

By ELY VAN DE WARKER, M. D.,
SYRACUSE, N. Y.

The conditions which control the relations of the lay public to the medical profession in provincial cities must differ widely from those which prevail in cities of metropolitan dimensions. In the latter the abuse of medical charities has grown into a positive evil, while in the former charity is only beginning to throw off its mantle of benevolence to masquerade in the garments of commercialism.

The dispensary abuse to the student of social life is interesting, and in the narrower field afforded by the smaller cities we may study its growth. That in the dispensary abuse the medical profession in the great cities is confronted by a condition of vast magnitude, we need but refer to the single fact that helpless in its presence, the legislature of the State was induced to enact a law that would control it by drastic measures; such a law was passed, but was too radical to receive the sanction of the executive.

This social condition had its rise, its varying periods of growth, and its final stage of full development—in other words, its natural history. These conditions were the simplest of any of the prior causes that have culminated in either good or evil in our complex civilization. According to a report of one of the members of the State board of charities, from 1791 to 1870 only one half per cent. of the population of New York received medical charity. In twenty-five years from 1870 this normal ratio, as we may call it, increased to the astonishing proportion of forty-nine per cent. The literature of the abuse of medical charities has already assumed considerable dimensions, but in all that has been written has an adequate explanation of this phenomenon been given? I think not. Here let us leave this part of the subject and take up one of even greater interest to us as physicians.

The year 1870 will approximate the date of a noteworthy development in medicine. Medical schools rapidly increased; specialism began to divide the ranks of practitioners into battalions of special workers. All of the great national special societies and congresses were organized subsequent to that date. The number of medical periodicals and publications was enormously increased. New hospitals in the provincial cities were organized, sometimes in excess of the local demand. The number of graduates in medicine increased year by year with a constantly increasing ratio between physicians and population. This was especially noted in the metropolitan cities from the tendency of young graduates to settle about their parent schools. This excess soon became apparent in provincial cities. A normal outcome of this was a change in the drift of patients at the expense of the profession in the great centres of population.

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* The President's Address, delivered before the Syracuse Academy of Medicine.

Twenty-five years ago it was a difficult matter to keep a patient requiring a major operation, excluding accident surgery, from going to New York. Twenty-five years ago in my own branch of surgery it was a very rare event for an abdominal operation to be made in Syracuse by a local man. Minor work, if it was a pay case, took the same direction. This in the last ten years has been totally revolutionized. What was the rule then is the exception now. I believe that to-day we are caring for all our surgical cases, rich and poor alike. What is true of Syracuse is true of Rochester, Binghamton, Buffalo, Troy, and Albany, and of the smaller cities throughout the State. The decrease in the incomes of specialists in the metropolitan cities has been a severe one. To find an out-of-town patient in the waiting rooms of the specialists there is the exception. They, like those in provincial cities, have to depend upon local work, or with that from near towns. The result is that there are men in New York to-day who are doing dispensary and out-patient work that men their equal in rank and the literature of their special calling would have called degrading fifteen years ago. They are obliged to do it in order to keep in touch with the material of their specialty.

There is one element in political economy upon which all agree, however much they may differ upon other matters in this complex science. This is the law of supply and demand. It works its purpose with inexorable justice when applied to the medical profession. In commerce oversupply lessens the price of an article, but in medicine it works the Darwinian law of the survival of the fittest; but this does not imply the survival of the best man, the best mind, the greatest knowledge; on the contrary, the man best adapted by push, commercialism, and business tact to survive. In trade it is the article which is cheapened, in medicine it is the man. Just in proportion as the ratio between physicians and population increased, the ratio in oversupply of physicians increased, and by the operation of the same law. In trade the remedy is to lessen the supply; in medicine the operation of the law caused greater energy in the manufacture of the finished product—the new graduate. Then began the struggle to keep in the front of this crowded line. Dispensaries, special hospitals, private clinics were organized and multiplied by single men, or by groups of men, with the ostensible object of treating the poor, but really to exploit the individual or the group.

Here is seen another phase of this universal law. What began in a struggle between physicians became a struggle between organized pseudo-charities. Those that could show the largest yearly attendance, the largest number of beds, the largest number of beds filled, either received the largest sum of public money or appealed the more effectually to the donations of the charitably inclined. There are worthy charities and unworthy, but I can make no such distinction, because all alike become factors in what we call the abuse of public charities. This I believe to be the natural history of this abuse. The physicians created it. They appealed to one of the strongest traits of humanity—cupidity. They advertised, they begged, planned, intrigued, pushed the weak back, crowded upward to such success as might come to those content to serve for nothing in the cause of a charity that man, not God, created, until they found themselves in the toils of a vast octopus, and after a vain struggle to escape they invoked the legislature for relief. The rank and file of the medical profession, wherein only is to be found the poor man's friend, and where abides always the spirit of sweet charity, confronted helplessly the great medical corporations that were themselves struggling for survival. What else could it be but a conflict that caused these corporations by intrigue to turn out of the service of the great public charities of New York all except those within their own ranks? They placed their banners upon the outer walls in hostile defiance, while the medical mob clamored at the gates. What but a struggle for survival would cause two great medical colleges in New York to endeavor to merge their forces, and what but the spirit that is responsible for the medical charities' abuse, the greed of place, would cause them to fall apart with bickerings, jealousies, and animosity?

The logical conclusion is, that this evil began in reckless competition in an overcrowded profession, in an unnecessary creation of dispensaries and hospitals, and finally in the untrammeled strife for public money, based upon the number of the alleged poor who patronize these so-called charities. If one or all of the physicians upon the staffs of these institutions were to discriminate and weed out the unworthy from the deserving poor they would be promptly dismissed, while there are hundreds of others to take their places. The profession may indeed stand helpless in the presence of the evil. Another bill will probably be presented to the legislature this winter, but it is doubtful if one can be framed so strong and well-devised as to correct an evil that seems to exist beyond the reach of legislative enactment. I may have used language that will offend some, but if I am correct it is none too strong. I believe, however, that I have stated the facts correctly and drawn just and logical conclusions.

Let us now examine how the provincial cities, or what are called in this State cities of the second class, stand in relation to the abuse of public charities. I am familiar with the conditions in my own city only, and shall therefore confine my remarks to it. Have we the initial factor—an overcrowded profession—among us? I think we have. According to the city directory there are three hundred physicians around us in practice. This includes the three legally recognized schools and a large number of others of no recognized school, but licensed to practise. As they advertise and resort to every device known to quackery to gain practice, they are very much in evidence and must be counted. The population in Syracuse in 1890 was eighty-nine thousand. Local pride always tempts the residents of a city to overestimate its population. The estimate of the directory canvassers I believe is untrustworthy, and I place our present population at less than one hundred thousand approximately. This gives one physician to three hundred and thirty inhabitants. As this includes all classes, it is evident that even if the sick were all pay cases and evenly distributed, it would not afford an income more than equal to one's daily needs, to omit all consideration of income sufficient to provide for sickness and old age. Competent authority has estimated that to secure all of this to a physician, the proportion must not exceed one to a thousand. It follows, therefore, that each new recruit to our ranks hopes to secure more than his evenly proportioned share of patients. This is competition and means the struggle for survival. As a matter of fact, patients are never evenly proportioned and never will be. The many qualities that make up the intangible thing called reputation always attract clients away from the mass, the majority of whom may be equally competent and deserving.

We can not have the abuse of medical charities without the machinery of abuse—the public charity itself. Here we have them, and it is only left for us to inquire if they exist in our midst to the extent of stimulating rivalry for public and private funds and for the attention of the public. I feel safe in saying that two general hospitals and one special hospital are more than enough to meet all the demands of charity and the accommodation of pay patients who have not the advantage of homes in a city of one hundred thousand inhabitants. If we have too many hospitals this must result in competition. That competition already exists—the rivalry that cheapens their beds and enhances their medical advantages at the expense of their medical staffs. Let a little history illustrate.

When one hospital, as a perfectly legitimate part of its work, organizes an obstetrical department, a general hospital badly housed in an ill-equipped wooden building opens a like department and puts its patients in the attic under the roof. The first opens an infant ward, and the second one promptly follows it and finds a place for infants (not sick) somewhere in its badly arranged and unsanitary building, thereby exposing healthy children of a tender age to all kinds and conditions of acute and infectious diseases. A hospital is destroyed by fire and begins to rebuild in a somewhat imposing manner, when the third general hospital, which has hitherto held aloof from the undignified rivalry of the other two, begins to build an imposing addition, whereupon the second hospital begins a brick addition to its old wooden structure. All this is done upon borrowed money, the aggregate debt of the three institutions being nearly one hundred thousand dollars. One of these institutions is built in excess of the demands for its beds, and I believe the others are also. With this local history can any one doubt that the battle for survival is already on? A dispensary is doing good and modest work, but at present it is a feeder for a rival hospital and, unless it is willing to divide its cases requiring hospital care, another will be established at no very distant day, and if a second then there will be a third. There will be no difficulty in finding twenty disinterested and philanthropic young men to give their time to sick humanity.

Another evil that is in our midst is the contract system adopted as a taking advertisement for mutual aid and friendly societies. I understand that these organizations have no difficulty in finding medical men to treat their members for one dollar a year each. If I give my services for nothing I have saved my dignity and manhood; but if, as a bid for work and pay over my competitors, I do beggar's work for such a pittance, I would feel like a thief and ready to do other dirty work for equally beggarly pay. But what can you expect? These men were educated to do this work at cheap colleges by teachers who maintained a doubtful professional dignity by teaching for nothing, who, if they demanded pay, would quickly find rivals in their chairs. I have no remedy to offer for the contract system. It is another phase of the battle for survival, when to survive means only a few dollars in one man's pocket which the others can not get.

I will not assert that we have the medical charity abuse in an abusive form in existence here, but as I have shown we have all of the necessary conditions, and now, in conclusion, I would like to give my plan of prevention, and I believe that I give it none too soon if by so doing I suggest a remedy.

I begin with the hospitals. In the provincial cities that will be the direction that the abuse takes. The remedy is a simple one. Let the hospital charge only enough for each bed to maintain the patient. Let them abandon the money-making side of the equation. Let them abandon the practice of creating a sinking fund by their profit on private patients for whom they exact free operations and treatments from their medical staff. In this way they will avoid creating a medical pauper class. If one of this class has a private room or a bed in a private ward, he does not feel like a pauper. I have heard one say: "If I go to the hospital I can have a private room, and Dr. Safe, who used to be my family doctor, is on the staff and he will have to treat me for nothing." This person wore good clothes, was a church member, and had a good salary, and if I had expressed the indignation I felt he would have said that I was insulting and abusive. The hospital was responsible for this individual, and, in fact, created the moral tone that permitted an otherwise honest person to become a cheat and a fraud. The one rule that should be adopted without exception is, that when a person is able to pay for anything more than its cheapest bed, at a price that pays its first cost, let the patient pay the doctor. It is true that the hospital can not pay off its debts except it has its large profits on its private rooms and its high-priced beds in its private wards. But it is not the legitimate function of a hospital to make money, and the managers know this; and I know as a fact that they work for a growing balance at their bankers. They may and can raise money in other ways to pay off their debt than by profits on their patients. To be practical, I would make this proposition: In case a patient is able to pay more than seven dollars a week for a bed give the medical attendant the privilege to charge a fee if he wishes, and leave that a matter between the patient and the physician, in which the hospital takes no concern. If we expect the management of the hospitals to do this we are mistaken. They do not dare to. They fear, and justly, that a rival hospital will take quick advantage of the fact that they give free medical attendance only to the poor. Again, I would suggest a remedy for the reluctance or timidity of the managing boards. This would consist in the medical staffs of the hospitals, and through this agency the hospitals themselves, coming together and mutually agreeing to such a plan as I have outlined, thus shutting out the competition and rivalry between the institutions and their staffs, for I regret to say that, under the existing order of things, the latter are active factors in the competition. There may be other methods of correction, but the one I have proposed appears to me the most direct way of putting a stop to the growing tendency to medical pauperism in the community, which is created and fostered by the existing hospital management.

It might be objected on the part of a hospital that, as they object to allowing the physician to adjust his own fee with the patient in a seven-dollar bed, they will add a contingent fee for treatment or operation, and thus increase the income of the hospital while educating the patient to pay. In answer to this it may be stated that a contingent fee has in no wise abated the dispensary abuse wherever tried. There is no substitute for direct and honorable dealing between physician and patient. You can not evade honest obligations even in the name of charity. If hospitals thrive on such evasions, it is done at the expense of public honesty and public policy.

We already have one dispensary that is doing good and needed work. If the hospitals at any time get the idea that this institution is used as a supply to the wards of one, to the exclusion of the others, one or more dispensaries under the name of out-patient departments are sure to be opened. Out-patient departments are usual appendages to hospitals in metropolitan cities, and are active rivals to dispensaries, because these are usually in more or less close affiliation with some one hospital. This business competition will become equally active here and will introduce one of the most active factors in the abuse of medical charities. It may be suggested that the remedy exists in the members of the profession declining to be gratuitous agents in serving these institutions, as without them they can not exist. Those who may suggest such a remedy forget that we have already more physicians than our population can care for, and that the young men who will crowd forward as candidates for these positions gain some slight advantage over their competitors from their appointments. The master motive in human action—self-interest—will control here as in other affairs of life. We do not need two or more dispensaries, but will that consideration have any restraining influence? As we have three hospitals, where one general and one special hospital is ample for all needs, I think we may assure ourselves that any justification in the needs of the poor will be given little consideration.

The remedy that I shall suggest exists in working in close cooperation with the well-organized lay charities we have in our midst. In a city of one hundred thousand inhabitants we ought to know every family requiring, or entitled by reason of poverty to, free medical treatment. Active relations between the charity relief organizations and the staffs of the dispensaries will shut off the unworthy and reserve their aid for the deserving poor to whom it justly belongs. To expect any self-denial on the part of the medical profession I believe to be hopeless. In a battle for survival their single aim is, not to encourage the survival of the fittest, but to create conditions that will enable the largest number to survive. The dispensary is as active a factor to this end in provincial cities as in those of metropolitan dimensions. Neither can we say that there is any dishonor or loss of professional dignity in accepting positions that require gratuitous services to these institutions. It has become the custom of the period to exact the time and knowledge of the physician without remuneration. It is wrong, of course, and has contributed as nothing else has to the abuse of medical charities. The evil is far reaching and lies as far back as medical education itself. Where thirty years ago a vast number of medical colleges were incorporated not one could have been organized, much less survived, unless the teaching corps gave their services without any equivalent in money. At the present time how many medical schools could exist if their faculties were paid? None, probably, except those belonging to the half a dozen great universities. What, may I ask, is the gain to the men who give the best years of their lives to gratuitous medical teaching? A position on the faculties of the few great universities may confer honors that many men would consider a just equivalent, but few medical colleges are in a position to confer honor, and the only equivalent is in what is regarded as legitimate advertising. A few may hope by teaching to broaden their knowledge and discipline their minds, forgetting that one gains neither knowledge nor intellectual training by repeating elementary ideas year after year beyond which they may not go.

It is difficult to explain the craze to establish medical colleges and the craze to teach except as rank commercialism. It was the entering wedge to the evil of medical charities' abuse. It created the surplus of the unemployed; that created the reckless superfluity of medical charities that has made the name a mockery and a shame. The system of exacting gratuitous teaching in medical colleges has done more to lower the tone of medical education, and by it to blunt the moral perceptions of the half-instructed young men, who both knew the status of their teachers and saw the motive behind the act, than all other causes combined; without this the present state of medical practice in its relation to charity would have been impossible. A medical college that can not pay its faculty has no right to exist, any more than a dispensary that has to invite a pay class to its clinics in order to make a good showing to its patrons, or a public hospital that is operated to make a profit. If we make a comparison of turpitude one is as bad as the other, but the first is the parent evil, and like father like child.

Here in Syracuse we are at least forewarned, and it may not be that we can arm against it; but I believe the plan I have briefly outlined, if put into working shape, will keep the abuse from enslaving us, and save us from the humiliation of our brethren of New York who have been obliged to appeal to the law-making power of the State to exterminate like Frankenstein a demon of their own creation.

TWO POINTS ON THE HYGIENE OF VISION.

By S. BUSBY ALLEN, M.D.,
FORMERLY ASSISTANT SURGEON, MANHATTAN EYE AND EAR HOSPITAL.

My attention has lately been arrested by a large number of cases that proved to have many points in common, though at first, apparently, they were not at all similar. They have occurred both in my private practice and in my service at the Manhattan Eye and Ear Hospital. These cases may be divided into two classes. Those of the first class present but slight errors of refraction. Astigmatism with the rule under a quarter H. or M. from fifty to seventy-five. Yet these people complained bitterly of asthenopia, and their ocular membranes were very much injected, the chorioid more especially. They were mostly women doing fine stitching or embroidery on black or colored goods; sewers of furs, of mourning goods; sewers of bands and braids on hats; men doing difficult engraving, mathematical draughting, spinners of brass, etc.

The second class had grave refractive errors, which had been in most cases properly corrected. Repeated examination proved they were wearing the lenses their errors demanded. I found the changing of their lenses a half dioptre spherical or one quarter cylindrical, or shifting the axis a few points vertical or horizontal, to be but love's labor lost. They continued to complain of asthenopia and presented the same ocular injection noted above, and, after close study and much thinking, I determined to visit their various places of business, and without exception I found they were all working with incorrect and insufficient illumination. Most of these people were employees and could not have made any change in their light, although I found not a few fully alive to the disadvantages under which they worked; some, however, were employers of labor, and could easily have remedied the defects had they rightly appreciated their importance, but, suffering from grave refractive error, their attention had been concentrated upon securing proper corrections.

One of these cases will serve to point out most of the errors, and to emphasize the lack of appreciation, even among intelligent people, of the hygiene of vision. This patient had entire charge of a very large business; the eye work required was the carrying on of a large correspondence and inspecting the reports of the various heads of departments. This required many hours daily of close work. The patient was wearing O. D. — 3.50, axis 70°; O. S. + 2.50, axis 180°. These gave her $\frac{20}{20}$ in each eye; the eyes worked well together. Having eliminated muscular asthenopia, it was evident there was some other cause for her suffering. Upon visiting her office I found a room with a floor space of about two hundred and seventy square feet lighted by a window measuring less than eighteen square feet, having two panes to the sash; these sashes were very large and were not beveled. The color of the woodwork in the room was dark brown, the ceiling and walls were gray. There was a great deal of woodwork. A bookcase with solid wooden doors, about twelve feet long and four feet high, was placed along one wall. The face, top, and sides of this presented a large amount of dark-brown surface. All these brown and gray surfaces absorbed a tremendous amount of the diffused light. In this room worked my patient and her bookkeeper, for whom I had prescribed glasses some six months previously. The absence of diffused light had caused them to crowd their desks, one on each side of the window, so as to catch the direct rays. The bookkeeper's light came over the right shoulder, and the shadows of her pen and fingers moved to and fro across the white paper as she formed the letters and figures. At my patient's desk, although the light came over the left shoulder, the rays were almost all direct, and the window looking south, the time of my visit being about 11 A. M., shadows from the heavy sashes were thrown upon the papers and dancing shadows from fleeting clouds and from bits of steam and smoke escaping from a near-by chimney caused work to be most distracting. Nothing more trying to the accommodation and convergence could well be devised. Every law of visual hygiene was violated: Two people working in a room barely large enough for one, with window space one third of what it should be, with dark coloring of woodwork, walls, and ceiling absorbing what little diffused light there was, working by direct rays rather than by diffused light, incorrect direction of the light causing shadows which kept the accommodation and convergence ever at work, and led to bending of the head to enlarge the visual angle. Here, then, was sufficient cause for all the ills for which the patient had sought relief by changing of her lenses.

In this search for the causes of the asthenopia from which these patients were suffering another and almost equally important cause was found. Many of these patients, more especially the younger ones, were great readers during the transit from their homes to their places of business, and most of their spare time they read, and it was found they were reading the cheap reprints with which the market is now flooded. I am quite sure the excessive reading of these very badly printed reprints at a time when the eye should rest is a fruitful source of myopia.

The cheapness of these books is quite wonderful. "*Marcella* and a cake of soap for five cents" was the sign displayed in a basket containing these articles in one of our department stores. Fiction, history, poetry, biography—all the standard works may be purchased at fifty cents a volume or even cheaper. To a man who loves a book there is something excessively offensive in these reprints; to the ophthalmologist they are simply vicious. It is not the price we quarrel with, but the excessive demand upon the accommodation and convergence required in reading them. The paper in these reprints is of a poor quality, too, transparent and yielding, so that the print shows through from the opposite side; while frequently it is embossed, and, owing to its porous quality, the strokes which compose the letters are not clearly defined, but shade off with a blurred, irregular edge. The ink is usually pale or of a poor quality. The paper is apt to have a yellow tinge. At least, it is not of the dead white that is most desirable. Another grievous fault is the crowding of the letters and the closeness of the lines so as to save space. These qualities all make for cheapness, but violate the hygiene of vision.

Let us define a concept of the hygiene of vision as an avoidance of those conditions that tend to disorder the eye, and an observance of those conditions which tend to preserve the eye. These patients, then, were suffering not on account of their refractive troubles, for in the first class such errors were very slight, and in the second class they had been properly corrected. The cause of their suffering was the violation of three important laws of visual hygiene: Use of the eyes with *incorrect and insufficient illumination; too prolonged use of the eye; reading bad print.* Perhaps it would be well to define what is a correct and sufficient illumination. The prolonged use of the eye is a relative matter, and every one knows just what good and bad print is. What, then, is a sufficient and correct illumination? The illumination should be sufficient to enable the normal eye to read Jaeger No. 1 at twelve inches in any part of the room. The light should come from the rear and over the left shoulder. To secure this amount of daylight, the window area will require to be at least one fifth the floor area, but if the room be oblong, with the window in the end, it is evident greater window space will be required, as the illumination diminishes as the square of the distance. If artificial illumination is used, the incandescent electric light with highly ground glass globes is by all odds the best. There should be at least a candle and a half to each cubic metre. The light in all instances should be well diffused. Working by direct rays should not be permitted. The tremendous absorption of diffused light by dark woodwork and blue wall papers and broad cornices of dark blue or brown or chocolate color, by yellow-tinted ceilings and gray-tinted walls, especially when these become soiled with smoke and dust and age and have irregular surfaces, can hardly be overestimated. They absorb immense quantities of the diffused light and nullify the preceding calculations. Of course, we are considering workrooms, not parlors, reception rooms, or bedrooms. In such rooms these colors are soothing and restful to the eye. But in offices, workrooms, and schoolrooms ceiling, walls, and woodwork should be light. To appreciate rightly the amount of light these colors will absorb, glance at the following list, showing the proportion of light reflected from the various substances as compared with that which falls upon their surfaces: Yellow wall paper, 40 per cent.; blue paper, 25 per cent.; dark-brown paper, 13 per cent.; dark chocolate paper, .04 per cent.; white blotting paper, 82 per cent.; white cartridge paper, 80 per cent.; white tracing cloth, 35 per cent.; white tracing paper, 32 per cent.; ordinary foolscap, 70 per cent.; newspaper, 50 to 70 per cent.; dark-brown paper, 13 per cent.; clean planed deal, 40 to 50 per cent.; dirty planed deal, 20 per cent.; soiled yellow paneled wall, 20 per cent.

55 East Eighty-sixth Street.

INGESTION OF AN EXCESSIVE AMOUNT OF CHLORAL HYDRATE WITHOUT INJURY.

By S. AUSTIN DAVIS, M. D.,
YONKERS, N. Y.

During a recent voyage to South America my services were desired by a fellow passenger suffering with a diseased tooth. His trouble had begun twenty-four hours before with a sense of tenderness on pressure in the upper and lower incisors and canines. This was thought to have been caused by a recently fitted "bridge," and it was thereupon temporarily removed. The pain, however, steadily increased, until it became, even for this strong man, simply unbearable. When he asked for relief, the left side of his face was so swollen as to limit the motion of the lower jaw and to make speech difficult and indistinct. The source of irritation was found to be a periodontitis of the left upper canine. As this tooth formed one of the anchorages for the aforementioned "bridge," he was reluctant to lose it, but temporizing gave no ease and the tooth was drawn. From this moment the relief was as great as the torture had been intense. The patient then showed me a pocket flask of eight fluidounces capacity, which, he said, had been full of a hypnotic preparation known as "bromidia." It was his custom to carry a supply when traveling, for use in case of an attack of insomnia, from which he occasionally suffered. One of these attacks had occurred six weeks before, and previous to this a year had passed since the drug had been employed. At such times two or three tablespoonfuls at most had sufficed to produce the desired effect.

Driven to desperation by the pain, he had emptied this flask during the three hours just past, and in wineglassful doses, but without getting any relief. His story seemed incredible, but the flask and glass still contained some of the preparation, and the patient's breath was strongly flavored with the odors of its component drugs. Aside from these evidences, there was nothing in his physical or mental condition suggestive of hypnotics, or which might not have been the result of intense and continued pain. After extracting the tooth, a solution containing morphine sulphate, a fourth of a grain; atropine sulphate, one one-hundred and fiftieth of a grain; and strychnine nitrate, one fiftieth of a grain, was given by the mouth. Following this he slept rather heavily and was somewhat restless during the night. Pulse rate and respiration were moderately increased; skin dry, warm, and flushed. Next morning, after several self-prescribed cathartic pills, the alvine discharges were copious and black. No facilities for uranalysis being at hand, none was made. Under symptomatic treatment, principally tonic, and consisting of champagne and strychnine nitrate, the patient soon regained his normal vigor. According to the label accompanying each bottle of "bromidia," there is contained in each fluid drachm of this mixture: Chloral hydrate, pure, fifteen grains; potassium bromide, purified, fifteen grains; extract of cannabis indica, an eighth of a grain; extract of hyoscyamus, an eighth of a grain.

The total amount ingested was, then, of chloral hydrate and of potassium bromide, nine hundred and sixty grains, or two ounces, each; of extract of cannabis indica and extract of hyoscyamus, eight grains each. The only ingredient in "bromidia" likely to produce a fatal result in overdose is chloral hydrate. No deaths from any of the other drugs have been recorded. The minimum lethal dose of chloral is variously stated to be from ten grains * to thirty grains.† Recovery is said to have followed the ingestion of as much as six hundred grains,‡ this being, so far as can be discovered, the largest amount ever taken and recovered from. In all the recorded cases examined, of recovery after large doses of chloral, symptoms of poisoning had appeared. This case differs in that there were no symptoms ascribable to chloral. It is safe to presume that a large part, if not the whole quantity swallowed, passed into the circulation and became eliminated in due course. The well-known antagonism of pain to the action of hypnotics may explain why, in this instance, symptoms of poisoning did not appear.

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* Hamilton. *System of Medical Jurisprudence.*

† Taylor. *Manual of Medical Jurisprudence, et al.*

‡ Witthaus and Becker. *Medical Jurisprudence.*

Therapeutical Notes.

Codeine and Chloralamide in the Insomnia of Alcoholic Pneumonia.—The *New York Polyclinic* for April 15th attributes the following prescription to Dr. A. A. Smith:

℞	Codeine	2 to 4 grains;
	Elixir of chloralamide (20 grains to ½ ounce)	2 ounces.

M. S.: A tablespoonful, to be repeated if necessary every two hours until three doses have been taken.

The Treatment of Constipation.—The *Clinica moderna* for April 27th gives the following formula:

℞	Aloes	30 grains;
	Resin of jalap, Resin of scammony, Turpeth root, } each	15 "
	Extract of belladonna, Extract of hyoscyamus, } each	2⅓ "
	Medicinal soap	a sufficiency.

M. Divide into fifty pills. One or two to be taken at bedtime for a fortnight or a month. At the same time the large intestine is to be treated with massage, and Carlsbad water is to be taken.

The Treatment of Gastric Hypochondriasis.—The *Clinica moderna* for April 20th gives the following formula:

℞	Euonymin	15 grains;
	Extract of hyoscyamus	3 "
	Medicinal soap	15 "

M. Divide into twenty pills. One or two to be taken at bedtime. A cold clyster is to be taken every day, provocation of the reflexes is to be avoided, and a regular daily occupation, bodily and mental, is to be prescribed.

Ichthyol in the Treatment of Small-pox.—Kolbossenko (*Vratch*, 1897, No. 13; *Monatshefte für praktische Dermatologie*, May 1, 1898) has thoroughly observed ten patients subjected to this form of treatment. Two of them had decided pyæmic symptoms at the time of their admission into the hospital, and they soon died. Of the eight other cases, four were of the confluent variety and in four the pustules were very abundant but not confluent. From the outbreak of the rash up to the time of the completion of incrustation, the following ointment was applied three times a day to the affected parts—in the severest cases to the entire surface of the body:

℞	Ichthyol	10 parts;
	Oil of sweet almonds	60 "
	Lanolin	20 "

M.

The pain and itching subsided promptly, and there was hardly any suppuration. The temperature did not rise above 103° F., and no cutaneous abscesses or phlegmons occurred. The period of desiccation lasted only three or four days. Even in children the application of the ointment to the entire skin gave rise to no unpleasant effects.

A Prescription for Phosphaturic Diabetes.—The *Gazette hebdomadaire de médecine et de chirurgie* for April 24th credits the following to Gourin:

℞	Calcium glycerophosphate	4½ grains;
	Powdered nux vomica	½ grain;
	Powdered coca	7½ grains.

M. For one cachet. Two such cachets to be taken in the course of twenty-four hours.

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NEW YORK, SATURDAY, MAY 28, 1898.

THE INCREASING RECOGNITION OF THE SERVICES OF MEDICINE TO THE STATE.

THE banquet given on May 4th by the Lord Mayor of London "to meet the president of the Royal College of Physicians, the president of the Royal College of Surgeons, and the members of the medical profession" at the Mansion House is a unique incident, and one of very great significance in the social evolution of the age. It is, we believe, the first time in the history, not only of England but of any country, that the profession of medicine at large, and as apart from some special occasion—*e.g.*, the meeting of an International Medical Congress, etc.—has been singled out for a public honor by way of marking official and public appreciation of its importance to the entire body politic. It is significant in the far-reachingness of its invitation and attendance. Physicians with titles, and physicians without, the leaders of the profession in England and their obscurer but no less worthy brethren, the presidents of the great colleges, corporations, and universities that hold the honor of the profession in their hands while acting as gatekeepers to the Temple of Æsculapius, the heads of the medical services of the British army and navy, all were there; and "to meet" them, as the invitation read, came Lord Russell, of Killowen, lord chief justice of England, the Marquis of Lansdowne, secretary of state for war, members of both houses of Parliament, of the Corporation and County Council of London, and the chief magistrates of many of the leading provincial cities of England, with other public personages of rank and importance. It is perhaps the greatest testimony on record of the growing recognition by the nations, through their official representatives, of the high place now being assigned to the medical profession in its corporate capacity as a servant of the commonwealth, and no longer merely as an aggregation of men who individually make their living by a business of a more or less quasi-philanthropic character.

All this is in line with the natural evolution of civilization. In the early days of the nations, it is the warrior, whether by sea or land, who almost alone is singled out for public honor. He it is through whose services the nation acquires a local habitation; he it is to whom the nation looks to preserve it in peace against attack from without, and to extend its borders to meet the imperious necessities of its growth. Later, under more settled conditions, comes greater national stability. Then the pressing public need of the commonwealth is the foundation of order and public peace by the enactment of just and equal laws and their maintenance by the efficient and impartial administration thereof. This period in the history of the nations is the epoch of the lawyer, upon whom, as the public servant of prime importance, the shower of honors and laurels next falls. Still later comes the epoch of the man of commerce, who by his friendly relations with other lands and his distribution and circulation of all those things that constitute actual wealth, contributes to the material well-being and prosperity of the body politic. And, finally, when the nation has become firmly established in estate, in constitution, and in material prosperity, comes the day of the scientist, whose labors tend to benefit the commonwealth in the aggregate by ameliorating the condition of its members individually. And not least important of this class is the physician, who, not only by healing the sick and disabled worker, thus restoring him from the position of a useless and unproductive to that of a useful and productive citizen, but still more by controlling through the laws of sanitary science those general causes which lower the vitality of the body politic in weakening its members, contributes largely to the efficiency and stability of the commonwealth.

We do not, of course, mean that these epochs have necessarily defined limits, any more than we imagine the entire world to have been at any given period universally in the stone age, or the ice age, or any other of the great epochs. As a matter of fact, the stone age is only now dying out in Australia, while the ice age still holds sway in the arctic regions. But what we do mean is that there have been periods in the development of nations in which the public recognition of one or another class has been predominant. We have grown so rapidly in this country, and under such hothouse conditions of progress, that we may better look for an example to a country of slower evolution. The history of England affords us a preeminent example of this progression. First came the period of warriors, when all the knights and barons, all the men of note and mark, were men at arms. Next, the titled dignitaries were found mostly in the ranks of the legal functionaries, and, by virtue of their association therewith, in those also of the churchmen. The rapid development of commerce caused the extension, even within the present century, of patents of nobility to successful merchants and manufacturers; but it has been reserved for the later years of the reign of Queen Victoria to see a peerage conferred, first upon scientists, and subsequently upon that man of "light and leading" in the profession of medicine, whom we all honor, Lord Lister.

The public importance of the medical profession to the commonwealth at large in its struggle against the forces of Nature can not surely be better stated than by adapting the words of Lord Lansdowne, when extolling its importance to that specialized portion of the commonwealth whose part it is to act for it in the struggles of nations. He said:

"There is no department in the public service which owes more to, and depends more upon, the members of your profession than the army. In time of peace it is you who teach us how to maintain the health of our troops and to combat the diseases which they have to encounter in the various and often trying climates which prevail in different parts of our ever-increasing empire. In time of war you do something to correct the barbarity of our methods and to mitigate the nameless sufferings which follow in the wake of great battles. Your skill and devotion are the correctives of our modern ruthlessness, and I think most of us will say that, if we had to choose between the credit belonging to the artillerist who has, let us say, invented a new form of dum-dum bullet, and the credit belonging to the surgeon who has contrived the means of extracting it painlessly and saving the shattered limbs, we should not hesitate in deciding whose part we should prefer. I am using no idle phrase when I say that the army is proud that it contains a number of officers who belong to the medical profession, but who are none the less soldiers in the fullest sense of the word, wearing the Queen's uniform, holding her commission, ready to take their share, aye and more than their share, of the risk and hardship of warfare."

LOCALIZED COLLECTIVE INVESTIGATION.

In spite of the determined opposition of some medical journals and of certain practitioners, by far the majority of whom have never given it any trial, the subject of serum therapy is advancing its hold upon the profession, as was only inevitable that it should from the conspicuous success attained by the antitoxine treatment of diphtheria. The position once established as regards even one of the group of germ diseases leads unavoidably to the logical conclusion that continued investigation will sooner or later bring all these dread diseases under the control of serum treatment. Such being the case, the multiplicity of articles and papers bearing on this subject is to be regarded with favor; for, though undoubtedly many will fail to substantiate their propositions, there will be certainly some grain winnowed from among the chaff, and even of those that substantively will sink into oblivion, who shall say that some chance remark or suggestion therein contained may not prove to be the means whereby other and more successful observers will find the right track and, by following it perseveringly, ultimately attain the desired goal?

These remarks have been prompted by a paper read before the Medical Society of the State of California, in April, by Dr. George L. Cole, and published in the *Pacific Medical Journal* for May. It is not so much that the paper contains any original addition to our knowledge as that it displays a method of procedure on the lines of collective investigation which can not be too highly commended. The more localized efforts of practitioners of wide repute in their own districts will often succeed in reaching the rank and file of the profession, where more centralized efforts in that direction fall short of attaining commensurate results. It is only necessary, then, for some large central body to itself collectively investigate the collective investigations of these local engineers, to render available to the profession such a mass of cumulative evidence as shall shorten materially the time during which any therapeutic measure remains "on trial."

Dr. Cole addressed to all the members of his medical society and several other physicians of his acquaintance the following series of questions: 1. In what percentage of your cases of diphtheria do you use the antitoxine? 2. In cases where the antitoxine has been used in your practice, about what percentage has recovered? 3. What dosage (in units) do you use for an average case in a child of seven years? 4. What other serums or antitoxines have you used? 5. Have you seen any positive effect from other antitoxines than that of diphtheria? 6. If so, what ones, and with what effect? Out of three hundred circulars, one hundred and fifty-five (a very fair proportion) were returned with replies.

As regards diphtheria antitoxine, only four expressed themselves as in any way antagonistic to its use, and not one of them had had any personal experience of the treatment. One considered it one of the numerous fads in medicine, and so apparently condemned it without trial. A second, who, however, had observed the results of others, though of how many or of whom we are not informed, is firmly convinced that a proper local with general treatment far outweighs in value that with serum. A third prefers that others experiment and first establish its therapeutic value, while "one very prominent and talented member of the society" "has had no trouble in curing all cases of diphtheria under his care during the last eighteen years with rational treatment and without sequelæ of disease or of treatment." As Dr. Cole remarks, this man we certainly can not blame for holding to his old line of treatment.

With regard to the practice adopted by two respondents of using the antitoxine not only in all established but also in all suspected cases, while, as Dr. Cole points out, this rather sustains an objection which has been made that many cases of indifferent throat diseases are mistaken for diphtheria and here serum reaps the honor, it also shows something of far greater importance—viz., that the serum is a comparatively harmless remedy.

The serum treatment of tuberculosis is of course far behind that of diphtheria at present. Still, even the replies on this question carry some encouragement. Twelve gentlemen had used various serums, of whom three reported one or more recoveries and four returned negative results. Several reported positive improvement, two spoke of results that were either negative or positively harmful, and one mentioned an apparent recovery. Dr. Cole remarks that no deduction of any great value can be derived from these reports, except to show that the majority of those who have reported on the use of the serum believe it does good.

The author adds the result of his own experiences with the antiphthisic serum T. R. (Fisch), and his conclusions are that it does positive good in certain cases —viz., those cases in which there is nearly enough resisting power in the individual to throw off the disease. These cases he considers curable, and he adds: "Of this I am certain, that no other remedy used by me in tuberculosis has done as much good, and I shall continue to use it in what seem to me properly selected cases until something better is found." He regards it as more positive in its results than other preparations and not so apt to cause inconvenience to the patient in the way of soreness or abscess; and, moreover, the dose is smaller.

Of tetanus nine cases were reported, with six recoveries, and it is pointed out that in the *Philadelphia Medical Journal* for March 26th four cases are reported, two of which, treated with narcotics and antispasmodics, had resulted in death, while in the two treated with antitoxine the patients had recovered. Antistreptococcus serum was the subject of only two reports, both on cases of puerperal sepsis, the streptococcic nature being demonstrated microscopically, and the results were stated to be most gratifying, the temperature falling rapidly and the cases going on to a prompt recovery. Dr. Cole insists upon the necessity of verifying the nature of the infection microscopically, and refers to a case of his own in which, serum having failed, subsequent microscopic examination demonstrated that the infection was due to the staphylococcus.

This article affords a fair example of how much may be done locally on the lines of collective investigation, with results more wide-reaching, if they should be subsequently collated by a central authority, than is ever likely to be attained by an investigation originating centrally. It is true that if every medical man should take it into his head to flood the profession with circulars requesting answers on any subject in which he might be interested, the very immensity of the process would soon kill itself; but the personal element would have much to do with success in such a scheme, and many leading practitioners in different localities could succeed in obtaining answers from their colleagues as a personal matter where a mere official request would fail. If those who are interested in such matters would supplement the circular method by spending some of the time devoted to personal intercourse in eliciting the desired information in the course of conversation, they would probably largely increase their field of operation; for, while there is among the few a *cacoethes scribendi,* it is equally true that among the many there exists a still more marked *constipatio.*

MINOR PARAGRAPHS.

SOME NEEDS OF THE POLICE FORCE.

THE following incident has come to our knowledge: A medical man, while walking down Broadway on the morning of the 24th inst., saw a crowd collected about a wagon near the Thirty-third Street Station, and, on approaching it, found a sick or injured man in the wagon with two policemen rendering assistance (?). Other policemen were round the wagon without making any attempt to clear the crowd away or clearing the wagon of the empty casks and boxes it contained. The patient might, so far as appearances were concerned, be either recovering from an epileptic attack or be suffering from syncope—from general appearances, probably the latter. The medical man introduced himself as a physician and volunteered his temporary assistance so long as needed, or until the police surgeon or some other practitioner could be summoned if found necessary. His offer was entirely ignored, and the policemen proceeded with their measures for the relief (?) of the patient by dragging him up into a sitting posture till his head fell forward over his neck, the collar not being loosened, and trying to force water down his throat out of a cup. A packet of some white powder was brought and some of it forced into his mouth; he was raised by the shoulders and dragged along the bottom of the cart, his legs doubling under him, and was finally laid down at the wrong end with his head near the seat, instead of the other way about, where he would have been fully exposed to the air. The physician, finding his remonstrances unheeded and his aid contemptuously ignored, finally left in disgust. It is clear from the foregoing narrative that there are two points upon which the police of this city, or at least some portion of them, stand in urgent need of instruction—viz., first, some knowledge of the principles of first aid to the sick and wounded; and, secondly, that when others technically competent to render skilled aid are at hand in emergencies, the police incur a more than ordinarily grave share of responsibility for refusing to accept it. An error of judgment on the part of a bystander who endeavors to the best of his knowledge and ability to render aid to an injured person, even if it should be just what ought not to be done and result in death, could not be condemned; but if in the presence of those who are technically competent, legally responsible, and willing to render skilled aid, he persists in his malpractice, his conduct is little short of criminal, and, in the event of evil resulting, he should be held to answer to the charge.

THE "NON-COMBATANT" FALLACY.

Perhaps no better illustration of the fallacy of stigmatizing medical officers of the army as "non-combatants" is afforded than the followng, quoted from the *Illustrated London News* of May 14th: "Surgeon-Captain B. H. Scott, of the army medical staff, who was severely wounded while taking part in Major Norris's march between Karene and Port Lokko, had been on the West Coast of Africa but a couple of weeks when he was dispatched as medical officer to the expeditionary force under Major Norris. He had previously seen active service with the Chitral Relief Expedition. Surgeon-Captain Scott's wounds were unhappily very severe. The bone of his left thigh was broken, and a bad flesh wound over the heart added to his sufferings, yet he behaved with the utmost courage and self-sacrifice, and as the only medical officer of the force insisted on removing many bullets from the wounded soldiery, and otherwise alleviating their distress, while all the time he himself had to endure a painful journey of three days' length before he could obtain medical relief. He is now on his way home, and it is hoped that by means of the Röntgen rays he may be relieved of the bullets which have not as yet been extracted from his wounds." Surgeon-Captain Scott belongs to a foreign service and is of foreign nationality, but he is a doctor, and when we add that this expedition was rendered necessary on the part of Great Britain to punish the murderers of the Rev. J. N. Cain and Mrs. Cain, Miss Archer, Miss Hatfield, and Miss Schenck, all, it is believed, of the American Methodist Mission, we do not think any apology is needed for using his case to enforce our contention of the fallacy of stigmatizing medical officers as non-combatants.

THE *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION* AND *PRINTERS' INK*.

Some of our contemporaries, we think, have taken with undue seriousness a recent exploit by a publication known as *Printers' Ink* whereby it was made to appear that a few reputable medical journals had expressed their readiness to accept a certain objectionable advertisement. Among them was the *Journal of the American Medical Association*. We are glad to see that that journal, in its issue for May 21st, is able to show that it did not accept the advertisement.

THE NEW MEDICAL SCHOOL IN NEW YORK.

It is understood now that the Bellevue Hospital Medical College is really to become the medical department of the New York University, so that the establishment of the medical school of Cornell University will not add to the number of schools in New York. This is gratifying news, but it is still to be regretted that it has been found necessary by the former medical faculty of the New York University to go to law to recover some of the property it had made over to the university. By seeking to retain possession of this property, the university seems to have put itself in the position of a girl who, having jilted her *fiancé*, insists on keeping the engagement ring received from him.

"ANUSOL."

We lately suggested that it might have been in a humorous vein that one of our German contemporaries had mentioned "anusol" as a remedy for hæmorrhoids. A correspondent has since sent us an advertisement clipped from a German journal by which it appears that the name "anusol" has really been given to a product that purports to be a compound of iodine, resorcin, sulphonic acid, and bismuth. So we must acquit our German contemporary of levity in this matter.

"HUSA."

In our issue for April 16th there was an editorial based upon an article on "Husa," by Dr. W. W. Winthrop, of Fort Worth, Texas, which had appeared in the February number of the *Texas Courier and Record of Medicine*. So early as on May 9th Dr. Winthrop wrote to us that up to that time he had received 437 letters from physicians, asking for further information concerning the somewhat mysterious plant that formed the subject of his article. We regret that we have been instrumental in deluging Dr. Winthrop with letters, and we wish to say to any others of our readers who may be inclined to write to him that we have received from him an article in which he sets forth all the information in his possession on the subject of this plant, and that we shall publish the article very soon.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 21, 1898:

DISEASES.	Week ending May 14.		Week ending May 21.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	10	4	21	3
Scarlet fever	244	26	240	23
Cerebro-spinal meningitis	0	4	0	8
Measles	500	17	397	14
Diphtheria	202	37	184	34
Croup	14	8	3	3
Tuberculosis	189	168	160	144

The American Medical Association.—The transportation committee of the New York County Medical Association have made arrangements with the New York, Ontario, and Western, the Wabash, and the Chicago, Northwestern, and Union Pacific railroads for a "Greater New York" special train, which is to be made up of delegates and their friends of New York and vicinity and visiting delegates from Philadelphia, Boston, Connecticut, and New Jersey. The train will leave the foot of West Forty-second Street, New York, on Thursday, June 2d, at 6.15 P. M., and run on fast schedule time, stopping at Suspension Bridge, Detroit, Chicago, and Omaha. The train will consist of the best Wagner cars between New York and Denver. The rate made by the trunk lines is a fare and a third for the round trip, which is $65. To all who join the train party th transportation will give a full berth from New York to Denver free of charge, thus saving $11 to each. Those who desire to take advantage of this offer are asked to forward a deposit of $10 to the chairman of the committee, Dr. J. J. E. Maher, 34 West Twenty-fifth Street, New York, at the earliest possible moment, and the balance, $55, on or before the 1st of June. Receipts will be issued for all money received. The committee will be at the West Forty-second Street Ferry an hour before the time of departure of the train, and will issue tickets on the presentation of such receipts. This will be necessary, because excursion tickets are not available before the 2d of June. On the return trip members may start at any time after June 12th and before July 6th, and take any regular train at any time. They may stop over at Omaha, Chicago, Detroit, and Suspension Bridge.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending May 21, 1898:

Small-pox—United States.

Birmingham, Ala	May 1–13	15 cases.	
Letohatchie, Ala	To May 13	50 "	
Mobile, Ala	May 6–13	10 "	
Port Deposit, Ala	To May 13	1 case.	
Washington, D. C	May 1–7	1 "	
Chicago, Ill	May 1–7	1 "	
New Orleans, La	May 7–14	1 "	
Orange, N. J	May 7–14	1 "	
Milwaukee, Wis	May 12–19	1 "	

Small-pox—Foreign.

Prague, Bohemia	April 16–30	10 cases.	
Ceara, Brazil	March 1–April 30		10 deaths.
Newcastle-on-Tyne, England	April 23–30	2 "	
Bombay, India	April 6–19		5 "
Calcutta, India	March 26–April 9		4 "
Madras, India	April 2–15		15 "
Christiania, Norway	April 23–30	1 case.	
Moscow, Russia	April 9–23	13 cases,	3 "
Odessa, Russia	April 16–23	6 "	
St. Petersburg, Russia	April 9–16	28 "	3 "
Warsaw, Russia	April 16–23		10 "

Cholera—Foreign.

Bombay, India	April 6–19		8 deaths.
Calcutta, India	March 26–April 9		80 "
Osaka and Hiogo, India	April 2–16	1 case.	
Madras, India	April 2–15		3 "
Singapore, India	March 1–31		1 death.

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	March 26–April 8	158 cases,	141 deaths.

Plague—Foreign.

Canton, China	March 22–April 5		10 deaths.
Hong Kong, China	March 22–April 5	78 cases,	50 "
Bombay, India	April 6–19		1,103 "

The Ontario Medical Association.—The eighteenth annual meeting will be held in Toronto, on June 1st and 2d, under the presidency of Dr. William Britton, of Toronto. In addition to the president's address, the programme includes the following papers: Syphilitic Cirrhosis, by Dr. J. G. Adami, of Montreal; Pancreatitis from a Surgical Standpoint, by Dr. James Bell, of Montreal; The Treatment of Fractures of the Skull, by George A. Peters, of Toronto; Carcinoma of the Uterus, by Dr. T. K. Holmes, of Chatham; Operative Methods in the Conservative Treatment of Tuberculous Joints, by Dr. Alexander Primrose, of Toronto; Oophorectomy for Fibroids of the Uterus, by Dr. Albert MacDonald, of Toronto; The Injurious Effects of our Overwrought School System on the Health of Public and High School Pupils, by Dr. R. Ferguson, of London; Immunity, by Dr. J. J. MacKenzie, of Toronto; The Effect of the Climate of our Canadian Northwest on Tuberculous Patients, by Dr. P. H. Bryce, of Toronto; The Traumatism of Labor, by Dr. C. B. Oliver, of Merlin; Endometritis with Erosions of the Os, by Dr. J. F. W. Ross, of Toronto; The Early Removal of Tuberculous or Necrotic Areas, by Dr. H. H. Oldright, of Toronto; Rheumatoid Arthritis in Children, by Dr. W. B. Thistle, of Toronto; When should we Operate? by Dr. William Oldright, of Toronto; My Experience with Diphtheria during the Fall of 1897, by Dr. William Doan, of Harrietsville; Hyperresonance of the Chest a Premonitory Symptom of Tuberculosis of the Lungs, by Dr. W. C. Heggie, of Toronto; The Medical and Surgical Treatment of the Insane, by Dr. A. T. Hobbs, of London; Cretinism in Ontario, by Dr. A. McPhedran, of Toronto; Recent Improvements in the Preparation of Catgut and Gauze, by Dr. N. A. Powell, of Toronto; Puerperal Complications, by Dr. H. D. Livingstone, of Rockwood; Experiments with New Remedies, by Dr. G. S. Ryerson, of Toronto; Vicarious Urination, by Dr. A. T. Rice, of Woodstock; A Brief Sketch of the Nervous System, of its Liability to Injury, and some of its Diseases, by Dr. I. Byron Newman, of Detroit; The Various Operative Methods of Dealing with Eyes Lost through Injury or Disease, by Dr. G. H. Burnham, of Toronto; The Toxæmias of Pregnancy, by Dr. C. J. O. Hastings, of Toronto; Hyporespiration and Hyperrespiration in Pulmonary Tuberculosis, by Dr. E. Playter, of Ottawa; Infant Diet, by Dr. W. J. Greig, of Toronto; Remarks on the Treatment of Clubfoot, based on the Personal Observation of Two Hundred and Forty-three Cases, by Dr. B. R. McKenzie, of Toronto; and Rosacea, by Dr. Graham Chambers, of Toronto. Dr. H. P. H. Galloway, of Toronto, will give an exhibition of a machine for manufacturing plaster-of-Paris bandages.

The National Confederation of State Medical Examining and Licensing Boards.—The eighth annual meeting will be held in Denver, on Monday, June 6th, under the presidency of Dr. William Warren Potter, of Buffalo. The preliminary programme contains the following titles: Address of Welcome, by Dr. William P. Munn, of Denver; Response, by Dr. William Bailey, of Louisville; Report of the Committee on the Minimum Standards of Requirement, by Dr. N. R. Coleman, of Columbus, Ohio; the president's address; Uniformity the Key to Reciprocity, by Dr. William Warren Potter; The Results of the Medical Law of New Jersey, by Dr. E. L. B. Godfrey, of Camden, N. J.; The Results of the Medical Law of Massachusetts, by Dr. E. B. Harvey, of Boston; The Results of the Medical Law of Kentucky, by Dr. Joseph M. Mathews, of Louisville; The Tennessee Method, by Dr. T. J. Happel, of Trenton, Tennessee; Under what Condition is the State of Virginia likely to Reciprocate as to Standards with Other States? by Dr. R. S. Martin, of Stuart, Virginia; Some of the Practical Reasons why Latin and Greek should not be included in the Standard of Preliminary Education required of Medical Students, by Dr. Henry Beates, Jr., of Philadelphia; On the Preparation of Questions, by Dr. Edward Cranch, of Erie, Pennsylvania.

Diplomas Erased and X-rayed.—The *Western Druggist* for May quotes from "a French medical journal" a case in which a French magistrate, having suspicions of the genuineness of a man's claim to be an American medical graduate, caused the diploma to be submitted to the action of a Crookes's tube, with the result that the outlines, in the substance of the paper, of a name which had been erased to make room for that of the present holder, were distinctly visible. The man was convicted.

Extirpation of Half the Thoracic Skeleton.—Faure (*Gazette des hôpitaux*, An. 71, No. 221; *Gl'Incurabili*, April 15th) has removed half the skeleton of the thorax, from the vertebral column to the sternum and from the second to the tenth rib, for chronic empyema! The patient lived twelve days after the operation "and would be certainly alive and well had not the lung been excavated by a large tuberculous cavity."

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 21st inst., the following papers were to be presented for discussion: The Relation between Diseases of the Teeth and the Ears, by Dr. Robert Barclay; and Aphorisms on the Physiology and Pathology of the Blood, by Dr. L. Bremer. Dr. Otto Sutter was to present cases illustrative of brain surgery.

A Comma-cal Error.—The following testimonial is said (*Médecine moderne; Gazette hebdomadaire de médecine et de chirurgie*, May 12th) to have appeared in an American paper. "I am to-day perfectly cured, after having been at death's door from having simply taken five bottles of your medicine." The omission of the comma after "door" means a whole lot.

The Undoing of Circumcision.—Dr. O. F. Mercier (*Union médicale du Canada*, May) records an operation for the restoration of the prepuce. The patient had been circumcised two years previously, but so sensitive was the glans that he suffered considerably from the least friction and, having tried in vain all kinds of applications, begged for some operation to restore the prepuce.

A Wound of Third Left Frontal Convolution without Aphasia.—Lèques (*Archives de médecine et de pharmacie militaires; Gazzetta medica lombarda*, May 2d) relates the case of a man who, having shot himself in the head with a revolver, died on the ninth day after the wound. At the autopsy it was found that the ball had traversed the third left frontal convolution, in its ascending portion, without, however, having induced aphasia during life.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Obstetrics and Gynæcology, on Tuesday evening, the 24th inst., Dr. Herman E. Hayd was to read a paper on Some Points in the Alexander Operation.

The Richmond Academy of Medicine and Surgery.—At the last regular meeting, on Tuesday evening, the 24th inst., Dr. W. S. Oppenhimer was to open a discussion on Appendicitis.

The Military Appointment of Dr. Senn.—Dr. Nicholas Senn (*Cincinnati Lancet-Clinic*, May 14th) has been appointed a deputy surgeon general with the rank of lieutenant colonel. Dr. Senn was for several years surgeon general of the Wisconsin State troops, and has lately been surgeon general of the Illinois National Guard.

Changes of Address.—Dr. B. B. Richardson, to No. 2057 Boston Road, New York; Dr. Harwood Vernon, to No. 151 West Seventy-ninth Street, New York; Dr. Frederick Wilhelm, to No. 271 East Seventh Street, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 15 to May 21, 1898:*

Baker, David, Acting Assistant Surgeon, will proceed from Waltonville, Illinois, to Fort Thomas, Kentucky, and report for duty at the general hospital.

Barber, Amos W., Acting Assistant Surgeon, will proceed from Cheyenne, Wyoming, to Fort D. A. Russell, Wyoming, and report to the commanding officer for duty at that post.

Bushnell, George E., Captain and Assistant Surgeon, is relieved from duty as attending surgeon and examiner of recruits at Boston, and will report in person to the surgeon general of the army for duty in his office.

Combe, Frederick J., Acting Assistant Surgeon, will proceed from Brownsville, Texas, to Tampa, Florida, and report for duty with the troops in the field at that place.

Corbusier, William H., Major and Surgeon, is relieved from duty at Angel Island, California, and assigned to duty as acting medical purveyor of the expedition to the Philippine Islands.

Davis, William B., Major and Surgeon, is assigned to duty in charge of the general hospital at Fort Myer, Virginia, in addition to his duties as surgeon at that post.

Duval, Douglas F., Acting Assistant Surgeon, will proceed from Washington to West Point, N. Y., and report for duty at the United States Military Academy.

Jordan, Arthur, Acting Assistant Surgeon, will proceed from Richmond, Virginia, to Mobile, Alabama, and report for duty with the troops in the field at that place.

Manly, Clarence J., Acting Assistant Surgeon, will proceed from Washington to Fort Thomas, Kentucky, and report for duty at the general hospital.

Penrose, G. H., Acting Assistant Surgeon, will proceed from Salt Lake City, Utah, to Fort Douglas, Utah, and report to the commanding officer for duty at that post.

Richardson, George H., Acting Assistant Surgeon, will proceed from Washington to San Francisco and report in person to the commanding general of the expedition to the Philippine Islands for duty.

Ewing, Charles B., Captain and Assistant Surgeon, will proceed at once to New Orleans and report to the commanding officer of the Fifth Cavalry for duty.

Shimer, Ira A., Acting Assistant Surgeon, will proceed from Washington to Fort Myer, Virginia, and report for duty at the general hospital.

Waterhouse, S. Melville, Acting Assistant Surgeon, will proceed from Washington to Fort Hamilton, N. Y., and report for duty at that station.

The following-named medical officers, in addition to their present duties, are assigned to duty in charge of the general hospitals at the places opposite their respective names: Gardner, William H., Lieutenant Colonel and Deputy Surgeon General, Fort Thomas, Kentucky; and Taylor, Blair D., Major and Surgeon, Fort McPherson, Georgia.

The following-named officers are detailed to represent the medical department of the army at the annual meeting of the American Medical Association, to be held in the city of Denver, Colorado, from June 7 to June 10, 1898: Woodhull, Alfred A., Lieutenant Colonel and Deputy Surgeon General; and Munn, Curtis E., Major and Surgeon.

Delgado, José M., Acting Assistant Surgeon, will proceed from Washington to Tampa, Florida, and report for duty with the troops at that place.

A contract having been made with McArthur, A. D., M. D., of Littleton, Colorado, for duty as acting assistant surgeon at Fort Logan, Colorado, he will proceed to that post and report to the commanding officer for duty, to relieve Edson, Carroll E., Acting Assistant Surgeon, whose contract is about to terminate.

Society Meetings for the Coming Week:

Tuesday, *May 31st:* American Dermatological Association (first day—New York); Medical Societies of the Counties of Queens (annual—Garden City), Rockland (annual), and Ulster (annual), N. Y.; Boston Society of Medical Sciences (private).

Wednesday, *June 1st:* Association of Military Surgeons of the United States (first day—Kansas City); Maine Medical Association (first day—Portland); Ontario Medical Association (first day—Toronto); American Dermatological Association (second day); New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, N. Y. (Stapleton); Penobscot, Maine, County Medical Society (Bangor); Orleans, Vermont, County Medical Society (annual); Bridgeport, Connecticut, Medical Association.

Thursday, *June 2d:* Rhode Island Medical Society (first day—Providence); Association of Military Surgeons of the United States (second day); Maine Medical Association (second day); Ontario Medical Association (second day); American Dermatological Association (third day); New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Medical Society of City Hospital Alumni of St. Louis; Atlanta Society of Medicine.

Friday, *June 3d:* Rhode Island Medical Society (second day); Association of Military Surgeons of the United States (third day); Maine Medical Association (third day); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

Saturday, *June 4th:* American Academy of Medicine (first day—Denver); Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

Births, Marriages, and Deaths.

Married.

Blake—Henneman.—In Spartanburg, South Carolina, on Wednesday, May 18th, Dr. Lewis Jones Blake and Miss Louise Henneman.

Coleman—McCaa.—In Port Gibson, Mississippi, on Wednesday, May 18th, Mr. Francis C. Coleman, son of Dr. Francis W. Coleman, of Rodney, Mississippi, and Miss Clara McCaa.

Johnson—Capers.—In Columbia, South Carolina, on Thursday, May 5th, Dr. William Henry Johnson, of Charleston, South Carolina, and Miss Lottie Palmer Capers.

Sommer — Sackett.—In San Francisco, on Tuesday, May 10th. Dr. Ernest A. Sommer, of Oregon City, Oregon, and Miss Sara Sackett.

Thompson — Wing.—In Honeoye Falls, N. Y., on Wednesday, May 18th, Dr. George H. Thompson and Miss Nettie Wing.

Wilhelm—Himmelweit.—In New York, on Tuesday, May 10th, Dr. Frederick Wilhelm and Miss Jeannette Himmelweit.

Died.

Van Urk.—In Rochester, N. Y., on Thursday, May 19th, Margaret Regina Van Urk, wife of Dr. F. J. Van Urk, aged twenty-seven years.

Book Notices.

Skin Diseases of Children. By George Henry Fox, A. M., M. D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, New York, etc. With Twelve Photogravure and Chromographic Plates, and Sixty Illustrations in the Text. New York: William Wood & Company, 1897. Pp. viii–166.

The volume which Dr. Fox has published under this title contains 94 pages of text and 65 devoted to a formulary, and is embellished with numerous photographs illustrating the diseases treated of. It must not, however, be supposed that the specification "skin diseases in children" means that they occur only in children. On the contrary, with the exception of hereditary syphilis, they are all met with in adult life, and, therefore, the clinical description of diseases given will aid the practitioner in making his diagnosis, no matter what the age of his patient may be. Among the processes the author treats of, eczema, lupus and other tuberculides, psoriasis, scabies, tinea, impetigo contagiosa, etc., may be mentioned, and all of these are illustrated by admirable photographs. A chromolithographic plate of psoriasis is remarkably good, but one of eczema leaves much to be desired. The accompanying text is concise and clear and the formulary very full and complete. The reviewer does not think, however, that this latter adds to the scientific, though it may to the market value of the book. The stringing together of a list of prescriptions can only be productive of routine in treatment and the destruction of originality in devising the care demanded by a case.

In regard to this feature, exception is not taken to this particular work, but the custom of spreading prescriptions broadcast without giving the reasons and indications for their use is certainly to be deprecated, and the sooner it is abandoned the better it will be for therapeutics.

Die pathogenen Spaltpilze. Von Dr. Bruno Schürmayer, Hannover, früher Assistent am hygienischen Institut der Universität u. an der chirurg. Klinik von Professor Schinzinger, Freiburg. Mit 77 Abbildungen im Text und 2 Tafeln in farbigem Chromodruck. Leipzig: C. G. Naumann, 1898. Pp. viii–351.

In this little volume Dr. Schürmayer gives an admirable sketch of the chief groups of pathogenic bacteria and their relations to disease. The subject is treated in a comprehensive manner, including not only the description of the morphological appearances of the bacteria as observed in the laboratory, but also the consideration from various points of view of their chemical, pathological, and epidemiological relations. The present state of the science of bacteriology, thus broadly understood, is set forth with fairness. The work is especially suited to the needs of the physician who wishes to freshen his knowledge of this subject.

The book is divided into two parts: The first part presents in meagre outlines the structure and growth of bacteria and the theories of their activity. The second part is devoted to a detailed exposition of the more important bacteria.

Before finishing the book the reader will have regretted again and again that the limitations of space imposed by cheapness of publication should have prevented the author from discussing more fully a subject which he has treated so satisfactorily in outline. With this regret will be mingled more or less exasperation over the carelessness of the proof-reader and the quality of the illustrations—including the colored plates—which are unusually poor, even for a cheap medical publication.

Atlas and Essentials of Pathological Anatomy. By Dr. O. Bollinger, Obermedicinalrath and Professor. Volume I. Circulatory, Respiratory, and Digestive Apparatus, including the Liver, Bile Ducts, and Pancreas. With Sixty-nine Colored Figures upon Sixty Plates, and Eighteen Illustrations in the Text. New York: William Wood and Company, 1898. Pp. viii–246.

The first of the two volumes devoted, in the series of hand atlases, to the subject of pathological anatomy relates to diseases of the circulatory, respiratory, and digestive apparatuses. Following the plan of other volumes of the series, a short description of the lesion appears opposite each plate. About two hundred pages of descriptive text, unaccompanied by plates, considerably increase the scope of the volume considered as a textbook of pathological anatomy. Scattered through these pages are a number of woodcuts.

It is difficult to see for what class of students, practitioners, or pathologists this volume is designed. Although many of the plates emphasize the characteristics of the lesion with considerable distinctness, the general execution is much inferior to that of older and more elaborate works of this class. A hasty inspection of a single pathological specimen in the fresh condition must be far more instructive than the study of any of these plates, so that the work can hardly be recommended to students who enjoy even a limited course in gross pathology. Probably this atlas may find some favor at institutions not possessing any proper facilities for instruction in gross pathology. Elsewhere the demand for it must prove very limited.

Les artérites et les scléroses. Par A. Brault, Médecin de l'Hôpital Tenon, etc. Paris: Masson et Cie., 1897. Pp. 5 to 166. [Prix, 3 fr.] [Encyclopédie scientifique des aide-mémoire.]

In this little volume the author continues the discussion of the pathology of arterial lesions begun in a previous volume of this series of monographs. Having considered the nature and ætiology of these lesions in the former treatise, he now proceeds to discuss the effects of arterial lesions upon the tissues, and especially the relation between changes in the arteries and scleroses of the viscera.

The dominating feature of the discussion is the effort to demonstrate the comparative independence of visceral and arterial sclerosis, and many interesting details in pathological anatomy are cited for this purpose.

The style is argumentative and the treatment of the subject is philosophical, citations being rarely indulged in. It is therefore an entire misapprehension to suppose that the work is to be classed, as indicated by the publisher, among "aids to memory." There is at present rather too little of this sort of medical composition, and the work will fully repay perusal.

BOOKS, ETC., RECEIVED.

Accident and Injury: Their Relations to Diseases of the Nervous System. By Pearce Bailey, A. M., M. D., Consulting Neurologist to St. Luke's Hospital, New York, etc. New York: D. Appleton and Company, 1898. Pp. xii–430.

A Manual of Instruction in the Principles of Prompt Aid to the Injured; including a Chapter on Hygiene and the Drill Regulations for the Hospital Corps, United States Army. Designed for Military and Civil Use. By Alvah H. Doty, M. D., Health Officer of the Port of New York, etc. Third Edition, revised and enlarged. New York: D. Appleton and Company, 1898. Pp. xvi–302.

Manual of Operative Surgery. By H. J. Waring, M. S., M. B., B. Sc. (Lond.), F. R. C. S., Demonstrator of Operative Surgery and Surgical Registrar, Late Senior Demonstrator of Anatomy, St. Bartholomew's Hospital, etc. Edinburgh and London: Young J. Pentland. New York: The Macmillan Company, 1898. Pp. xxvi–661. [Price, $3.25.]

Diabetes Mellitus and its Treatment. By R. T. Williamson, M. D. (Lond.), M. R. C. P., Medical Registrar, Manchester Royal Infirmary, etc. With Eighteen Illustrations (Two Colored). Edinburgh and London: Young J. Pentland, 1898. Pp. xi–417.

The Development of the Child. By Nathan Oppenheim, Attending Physician to the Children's Department of Mount Sinai Hospital Dispensary. New York and London: The Macmillan Company, 1898. Pp. viii–296. [Price, $1.25.]

Ear Records: A Method of Recording Ear Cases. Arranged by John C. Lester, M. D., Fellow of the American Academy of Medicine, etc., and Vincent Gomez, M. D., Assistant Surgeon, New York Eye and Ear Infirmary, etc. New York: J. W. and George H. Hahn, 1898. Pp. 175.

Brief Essays on Orthopædic Surgery; including a Consideration of its Relation to General Surgery, its Future Demands, and its Operative as well as its Mechanical Aspects, with Remarks on Specialism. By Newton M. Shaffer, M. D., Surgeon in Chief to the New York Orthopædic Dispensary and Hospital, etc. New York: D. Appleton and Company, 1898. Pp. 81.

Optical Truths. By Charles McCormick, M. D., President of McCormick Optical College, Chicago. Illustrated. Chicago: McCormick Optical College, 1898. Pp. 12 to 152.

Suite de monographies cliniques sur les questions nouvelles en médecine, en chirurgie, en biologie. No. 7. L'Eczéma (maladie parasitaire): Nature, pathogénie, diagnostic et traitement. Par le Dr. Leredde, Chef de Laboratoire. Pp. 40. No. 8. La fièvre jaune. Par le Dr. Sanarelli, Directeur de l'Institut de'hygiène expérimentale à Montévidéo. Pp. 36. Paris: Masson et Cie., 1898. [Prix, chaque monographie séparément, 1 fr. 25.]

Die Technik der speziellen Therapie. Für Aerzte und Studirende. Von Dr. F. Gumprecht, Privatdocent in Jena. Mit 181 Abbildungen im Text. Jena: Gustav Fischer, 1898. Pp. xi–337. [Preis, 7 Marks.]

Datos para la Materia Médica Mexicana. Segunda Parte. Mexico: Oficina Tip. de la Secretaría de Fomento, 1898. Pp. viii–183.

Public Health Reports. Issued by the Supervising Surgeon General of the Marine-Hospital Service under the National Quarantine Act of April 29, 1898, and the Act granting Additional Quarantine Powers and imposing Additional Duties upon the Marine-Hospital Service, approved February 15, 1893. Vol. XII. Nos. 1 to 53.

Twentieth Annual Report of the State Board of Health of the State of Connecticut for 1897, with the Registration Report for 1896 relating to Births, Marriages, Deaths, and Divorces.

The Middlesex Hospital. Reports of the Medical, Surgical, and Pathological Registrars for the Year 1896.

Eleventh Annual Report of St. Margaret's Hospital of Kansas City. For the Year ending December 31, 1897.

Some Remarks and Reports upon Specimens in Abdominal Surgery. By Dr. H. O. Walker, M. D., of Detroit. [Reprinted from the *Physician and Surgeon.*]

Some Cases of Brain Surgery. By Hal C. Wyman, M. D., of Detroit. [Reprinted from the *Medical Age.*]

The Surgery of Tuberculosis of the Peritonæum. By Parker Syms, M. D. [Reprinted from the *Medical Record.*]

The X Ray from a Medico-legal Standpoint. By Dr. R. Harvey Reed, Columbus, Ohio. [Reprinted from the *Journal of the American Medical Association.*]

The Pathology of Ante-natal Life. By Dr. J. W. Ballantyne, of Aberdeen, Scotland. [Reprinted from the *Glasgow Medical Journal.*]

Renal Suppuration, Catarrhal, Specific, and Traumatic, and the Value of Micro-uranalysis of the Urinary Sediment as an Aid to Definite Diagnosis of It. By Dr. Thomas H. Manley, of New York. [Reprinted from the *Journal of the American Medical Association.*]

The Differential Diagnosis between Diseases of the Sound-conducting and Sound-perceiving Apparatus. By Dr. Edward B. Dench, of New York. [Reprinted from the *Transactions of the American Otological Society.*]

The Technics of the Mastoid Operation. By Dr. Edward B. Dench. [Reprinted from the *New York Eye and Ear Infirmary Reports.*]

Miscellany.

Rare Forms of the Epileptic Aura.—Dr. L. Pierce Clark (*Canada Lancet,* May) details as the result of his researches into the characters of the epileptic aura some uncommon forms among his patients, which, in the light of our present knowledge of the functions of the nervous system, seem like mere vagaries of the epileptic's disturbed mental state. 1. *Phrase Recurrence.*—Our patient repeats the phrase *nicht wiedersehen* or sometimes *auf dem reirdem,* which has no correspondence with her normal thought and of the meaning of which (if any) she is ignorant. 2. *Aura Lacrimalis.*—A patient has a confused and stupid feeling for some two hours before the attack, and either weeps and cries loudly, or weeps quietly by himself. 3. *Pain in the Hypochondrium.* 4 and 5. *A Dreamy State.*—In these cases the state is always an aura, and does not take the place of an attack as described by Hughlings Jackson and Gowers. 6. *Migraine.*—A patient has migraine over an area two inches and a half in diameter in the left temple, for some ten hours before the attack. Salicylates will sometimes abort the attack. 7. *Spasm of the Masseters.* 8. *Abnormal Olfaction.*—A patient notices an odor of "wood smoke" before about one third of his attacks. 9. *Analgesia of the Tongue.*—About ten or twelve minutes before the attack, loss of sensation in the anterior portion of the tongue occurs, and the patient is unable to speak from want of control of the tongue. 10. *Pain in the Right Thigh.* 11. *Peripheral Analgesia.*—A sudden numb feeling over the entire periphery, recurring every two or three minutes until the seizure occurs. 12. *A Chilly Feeling in the Lumbar Region.* 13. Three patients describe an indefinable sensation of fear and desire to escape from the room without actually making any effort to do so.

The Bacillus of Tetanus in Human Fæces.—Pizzini (*Rivista d'igiene e sanità pubblica,* No. 5, 1898; *Clinica moderna,* No. 13, 1898) relates the case of a man of twenty-five upon whom he operated for the radical cure of a strangulated right inguinal hernia with symptoms of acute peritonitis. The patient was suddenly seized with opisthotonus and trismus and died rapidly with all the symptoms of tetanus. The necropsy showed adhesion of the cæcum to the parietal peritonæum, with scanty purulent exudation and gangrene of the intestine. From the pus the author isolated a bacillus resembling that of tetanus, which produced the death of a young rat, from which characteristic tetanus cultures were obtained. The author ultimately sought the bacillus of tetanus in the fæces of ten healthy persons who were used to attend on horses, and found them in three cases, while in the fæces of ninety countrymen positive results were obtained in only two.

Such is Fame!—We should have thought that if there was one medical man whose name was known throughout the entire world of medicine, both by friends and by foes, and he has many staunch ones of both kinds, so familiarly that a mistake as to its spelling would be impossible, it was Lawson Tait, of Birmingham, England. Yet the *Medical Sentinel* for May in an editorial note three times spells it "Lawson Tate."

The Electrical Treatment of Urethral Stricture.—Wagapow and Siletow (*Medicinskoe Obosrenie,* No. 6, 1897; *Clinica moderna,* No. 13, 1898) consider electrolysis with proper precautions, using a current not stronger than ten milliampères and not prolonging it beyond ten minutes a sitting, as capable of affording the best results, and under certain circumstances as preferable to urethrotomy. By its rapidity the depression so often associated with long treatment of genito-urinary diseases is avoided. There is no great liability to recurrence, and its freedom from complications makes it the only possible method in cases where other affections of the urinary apparatus—*e. g.,* diabetes—exist.

The Spontaneous Cure of Axillary Aneurysm in an Infant.—Dr. William C. Mardorf (*Medical Review,* May 14th) recently showed to the Medical Society of City Hospital Alumni, St. Louis, a child which he first saw when it was nine days old, which had in the left axilla a tumor, soft and compressible, dilating synchronously with the heart, and over which a bruit could be heard, but there was no aneurysmal thrill apparent. This tumor had not been noticed at birth by the midwife, but some days later a small, soft swelling was observed which gradually filled the entire axilla. The tumor was not round and definitely outlined, but flattened and soft, covering the anterior aspect of the shoulder and a small part of the upper arm; beneath, it extended beyond the posterior border of the axillary space. Dr. Mardorf was subsequently informed that the child had been roughly handled a day or two after birth, during the performance of some occult ceremonial rites designed to insure it good luck through life, part of which rites consisted in handing the child dangling by one arm from one person to another over the banisters. When shown, the child was in excellent health, after having passed, however, through a period of some months' suffering.

Practitioners and Population.—Under the heading of An Overcrowded Profession, *The Medical Times and Hospital Gazette* (*Journal of Practical Medicine,* May) says: There are now about 6,100 medical men in London, about 15,400 in the rest of England, about 1,100 in Wales, 3,400 in Scotland, and 2,600 in Ireland. In other words, there are 28,000 practitioners for the forty millions of the population of the United Kingdom. Excluding the 300,000 who are in the workhouses, asylums, and prisons—paupers, imbeciles, and criminals who are under public care—and at least twelve millions of the industrial and agricultural classes who can not possibly be remunerative patients, it becomes evident that on the average each practitioner has less than 1,000 possible patients. When the average yearly illness is remembered and the average fees for attendance, it requires a very slight knowledge of arithmetic to prove that the average practitioner can only with the greatest difficulty earn a sufficient livelihood.

In some parts of the United States, 1,000 persons to each member of the medical faculty would make a good allowance. Some few years ago, we made a computation for about ten cities in the State of California of the ratio of medical men to population, and we did not find a single one which had at that time 400 head of population to each practitioner.

The Doctor's Services and their Compensation.—At a meeting of the St. Louis Medical Society (*Medical Review,* May 14th), speaking to a paper by Dr. Hughes on Medical Skill and Medical Compensation, Dr. I. N. Love said: I once made out a bill against a gentleman whose two children I had brought through typhoid fever and I charged him $625. He asked me to itemize the bill and I wrote down the items as follows: For knowing how to save your two children $600, for doing so $25.

And Dr. Love was right.

Removal of the Inferior Dental Nerve through the Mouth.—Dr. Alexander H. Ferguson (*Chicago Medical Recorder*, May) reported to the Chicago Medical Society on April 13th a case of neuralgia in which all of the three branches of the nerve were affected. The tongue and ear were also involved. Medical treatment had proved useless. The inferior dental nerve was then removed in view of the removal of the Gasserian ganglion, a much graver operation. The head was thrown well back, and a gag put in the mouth. The distribution of the inferior dental nerve was then cut at its exit and from the mental foramen, and dissected out at that point and cut as it began to divide in its distribution. A half-inch trephine was then used on the jaw where the two last molar teeth were situated. After the gums had been separated longitudinally and the soft parts pushed to one side, a trephine was applied on the inferior maxilla and the nerve exposed where it traveled through the jaw. An incision was made parallel to the ascending ramus of the jaw and a little to the inner side thereof, cutting through the mucous membrane, and by blunt dissection the nerve was found as it entered the foramen on the inside of the jaw, a good guide being the sharp spiculum situated in that part. After the nerve had been severed at the mental foramen and exposed at its entrance into the inferior maxilla it was extirpated *in toto* by pulling it out from the middle of the jaw, and then hooking it from the upper incision until it hung loose, then following it up as far as possible and cutting it. In this procedure the artery was injured and the wound had to be packed firmly. The packing was left in for three days, then removed. No hæmorrhage followed. The patient was relieved instantly and had remained perfectly free from pain since.

The Effect of the Desiccation of Germs on the Aerial Transmission of Disease.—E. Germano (*Zeitschrift für Hygiene und Infectionskrankheiten,* 1897, vol. xxvi, p. 273; *Canadian Journal of Medicine and Surgery,* May) thus summarizes the results of his researches on the resistance of bacteria to desiccation, and consequently on the possibility of their transportation in a virulent condition, or the reverse, by the atmosphere.

From the standpoint of resistance to desiccation pathogenic bacteria may be divided into three groups:

1. The first group comprises the vibrio of cholera, the bacillus of plague, and the bacillus of typhoid fever. These belong to the category of fixed viruses, for they offer a feeble resistance to desiccation in dust, in which they almost completely disappear after twenty-four hours. Their transportation by the atmosphere in a virulent condition is no longer admissible. Everything seems to favor the opinion that the bacillus of influenza and the gonococcus behave in the same manner.

2. The second group comprises the streptococcus, the bacillus of diphtheria, and the pneumococcus. They offer greater resistance to desiccation, and this resistance varies with the origin of the culture. Generally, however, we may consider them as fixed viruses, in the sense that their transportation by the atmosphere in a virulent condition does not ordinarily take place. They may, however, under certain conditions, act like a volatile virus—that is to say, they may be transported by the air in a virulent condition, a circumstance which would explain the appearance of sporadic cases of erysipelas or diphtheria. Perhaps, also, in certain forms of epidemic pneumonia the pneumococcus becomes a volatile virus.

3. The third group comprises the intracellular diplococcus, the agent of epidemic cerebro-spinal meningitis, which offers a strong resistance to desiccation, and beside which, from the point of view of this resistance, may be placed the *Bacillus tuberculosis* and the staphylococcus. The question of the conditions under which infection by the staphylococcus and *Bacillus tuberculosis* may be transmitted by the air is not yet solved. If the infection of wounds, however, occurs by immediate contact, one can understand how staphylococci, dried but still virulent, may be transported by the air and fall on a wound or on objects in contact with it. With regard to tuberculous infection, it had already been settled from negative experiments on animals that aerial infection in man is impossible. According to Germano this conclusion is not quite exact, for it is possible that in man, or, at least, in certain individuals, the respiratory passages are more accessible to tuberculosis than the respiratory passages of animals.

A Simple Test for the Purity of Water.—The *Massachusetts Medical Journal* for May quotes from *Health,* for persons who can not command chemical analysis, the following simple tests for the purity of water:

Fill a bottle made of colorless glass with the water; look through the water at some black object; the water should then appear perfectly colorless and free from suspended matter. A muddy or turbid appearance would indicate the presence of soluble organic matter, or of soluble matter in suspension. It should be "clear as crystal."

Empty out some of the water, leaving the bottle half full; cork up the bottle and place it for a few hours in a warm place; shake up the water, remove the cork, and critically smell the air contained in the bottle. If it has any smell, and especially if the odor is in the least repulsive, the water should be rejected for domestic use. By heating the water to boiling, an odor is sometimes evolved that otherwise would not appear.

Pure water should be tasteless and remain so after being warmed. It should also be odorless; but, since the delicacy of smell and taste varies greatly, sanitarians attach special importance to Heisch's test for sewage contamination or the presence of putrescible organic matter. A clean pint bottle is filled three fourths full of the water to be tested, and in the water is dissolved a teaspoonful of the purest sugar—loaf or granulated sugar will answer; the bottle is then corked and kept in a warm place for two days. If in from twenty-four to forty-eight hours the water becomes cloudy or muddy, it is unfit for domestic use. If it remains perfectly clear it is probably safe to use.

The Late Dr. Isaac Newton Quimby.—At a special meeting of the committee on necrology of the Hudson District Medical Society, held at Jersey City, May 7, 1898, to take action on the death of Dr. Isaac Newton Quimby, the following resolutions were unanimously adopted and will be reported at the next meeting of the society:

Whereas, We have learned with deep regret of the death of our beloved member, Dr. Isaac Newton Quimby, a man meriting the respect of his professional colleagues and the general public; be it therefore

Resolved, That in the death of Dr. Isaac Newton Quimby the society has lost a most earnest worker and its members a congenial friend.

Resolved, That the profession at large has cause to regret his death and the people of this city have lost a public-spirited citizen, one who continually guarded the public health and strove to advance the welfare of the community.

Resolved, That these resolutions be spread in full upon the minutes of the society and a copy be sent to the family of our deceased brother, the city press, the medical journals of New York, Philadelphia, and Chicago.

[Signed.] J. M. RECTOR, M. D., President;
H. SPENCE, M. D., Secretary;
H. H. BRINKERHOFF, JR., M. D., Treasurer;
J. A. EXTON, M. D., Reporter,
} *Committee.*

The Third District Branch of the New York State Medical Association.—The fourteenth annual meeting will be held in Cortlandt, on Thursday, June 2d, under the presidency of Dr. H. W. Carpenter, of Oneida. In addition to the president's address, the programme contains the following titles: Senility, by Dr. F. W. Higgins, of Cortlandt; The Diagnosis and Surgical Treatment of Renal Calculus, by Dr. N. Jacobsen, of Syracuse; Malignant Disease of the Uterus, with Special Reference to its Early Diagnosis, by Dr. Frederick Holme Wiggin, of New York; The Surgical Treatment of Uterine Myoma, by Dr. Henry O. Marcy, of Boston; Papilloma of the Bladder, by Dr. E. D. Ferguson, of Troy; The Growth of the Dispensary System of Medical Relief in New York State, by Dr. Stephen Smith, of New York; Memoranda, by Dr. H. D. Didama, of Syracuse; A Case of Extra-uterine Pregnancy Operated on at Term, by Dr. Ely Van de Warker, of Syracuse; Some Thoughts on the Rational Treatment of Disease, by Dr. Chauncey P. Biggs, of Ithaca; and A Temperature Study, by Dr. LeRoy J. Brooks, of Norwich.

Transportation Arrangements for the Denver Meeting of the American Medical Association.—The committee on transportation announces the following railroad rates which have been granted: The rates over all roads west of Chicago and St. Louis will be one regular first-class fare for the round trip, with two dollars additional, and permits a different route returning. Tickets in that section will be on sale from June 2d to June 6th. Different routes in that section will be permitted only on tickets reading "west of the Missouri River"; stopovers are permitted at intermediate Colorado points, but the destination must be reached not later than June 7th; the return trip is not to begin before June 12th or later than July 6th. The rate over all roads west of Pittsburgh, Erie, and Buffalo, and east of Chicago and St. Louis, will be one fare for the round trip, with four dollars additional for different routes returning. The rate over the roads east of Pittsburgh, Erie, and Buffalo to the New England States will be a fare and one third for the round trip, on the certificate plan.

For members living in the East, the Pennsylvania Railroad has offered to run a special train for fifty or more persons, to be run through from Jersey City to Denver and return; to provide transportation for the round trip, including Pullman berth for each passenger and all meals in the dining car, both going and returning, if the trip is made without a stop-over, for the following rates: Round trip from New York, $95; Philadelphia, $93; Washington, $91; Baltimore, $91; Harrisburg, $91, with proportionate rates for other stations. The route of the special train, going and returning, is to be *via* Pittsburgh, St. Louis, and the Missouri Pacific Railroad to Denver. The special train returning will, if desired, run over the Union Pacific Railroad from Denver to Omaha, arriving at 7.30 A. M., and leaving at 9 P. M., thereby giving fourteen hours at Omaha. For this privilege an additional charge of four dollars will be made. The special train must leave New York Saturday, June 4th, at 2 P. M., arriving at Denver June 7th, at 6 A. M. Those desiring to travel by the special train are asked to communicate at once with the local Pennsylvania agent, or with Mr. George W. Boyd, general passenger agent, Philadelphia, who will arrange for tickets and Pullman space. The special train will not be run unless at least fifty passengers are secured from the eastern territory and the New England States.

The Massachusetts Medical Society.—The one hundred and seventeenth annual meeting will be held in Boston on Tuesday and Wednesday, June 7th and 8th, under the presidency of Dr. Henry P. Walcott, of Cambridge. The section meetings will be held in the Mechanic Building on Tuesday. The programme for the Section in Medicine, under the chairmanship of Dr. Leonard Wheeler, of Worcester, includes the following papers: Antitoxine in the Treatment of Diphtheria, by Dr. J. H. McCollom, of Boston; The Toxine of Diphtheria and its Antitoxine, according to Recent Experimental Investigations, by Dr. Theobald Smith, of Boston; Recent Advances in the Bacteriology of Typhoid Fever, by Dr. M. W. Richardson, of Boston; and Epidemic Cerebrospinal Meningitis, by Dr. A. H. Wentworth, of Boston. The order for the Section in Surgery, under the chairmanship of Dr. E. H. Stevens, of Cambridge, is as follows: The Pathology of Certain Surgical Diseases of the Bones and Joints, by Dr. E. H. Nichols, of Boston; The Question of the Curability of Cancer of the Breast, by Dr. J. C. Warren, of Boston; Tetanus and its Treatment, by Dr. F. B. Lund, of Boston; and The Correction by Operation of Some Deformities of the Nose, by Dr. G. H. Monks, of Boston. The Shattuck lecture will be given on Tuesday by the Hon. Sir William H. Hingston, M. D., of Montreal, on the subject of The Influence of the North American Climate on the People. The general meeting will be held in the Mechanic Building on Wednesday, at which the following papers will be read: Types of Habit Neuro-psychoses, by Dr. E. W. Taylor, of Boston; Formaldehyde Gas as a Disinfectant, by Dr. D. D. Brough, of Boston; The Treatment of Neurasthenia and Hysteria, by Dr. Morton Prince, of Boston; The X Ray in Medical Practice, by Dr. F. H. Williams, of Boston; and Some Modern Methods in the Treatment of Phthisis and its Symptoms, and what is to be Avoided, by Dr. E. O. Otis, of Boston. The annual discourse will be delivered at noon by Dr. William T. Councilman, of Boston.

The American Academy of Medicine.—The twenty-third annual meeting will be held in Denver on Saturday and Monday, June 4th and 6th, under the presidency of Dr. L. Duncan Bulkley, of New York. Besides the address of the president, the following papers have been announced on the preliminary programme: The Advantage of Physical Education as a Prevention of Disease, by Dr. Charles Denison, of Denver; The Importance of Training the Special Senses in the Education of Children, by Dr. Thomas C. Ely, of Philadelphia; Some Criticisms on the Questions of the Medical Examining Boards by a Recent Graduate, by Dr. J. Edgar Fretz, of Easton, Pennsylvania; The Necessity of Medical Supervision in School Life, by Dr. G. G. Groff, of Lewisburg, Pennsylvania; Growth and Strength, and their Relation to Education and Medicine, by Dr. Bayard Holmes, of Chicago; How Much to Educate the Growing Brain, by Dr. Henry M. Hurd, of Baltimore; The Muscular Basis of Education, by Dr. Woods Hutchinson, of Buffalo; The Care of the Eyes during School Life, by Dr. Edward Jackson, of Philadelphia; The Interdependence of Healthy Bodies and Healthy Brains, by Dr. Elmer Lee, of New York; The Modern Sanitarium and its Relation to the General Medical Profession, by Dr. J. C. Lichty, of Clifton Springs, N. Y.; Snags in the Course of the Medical Examining Boards, by Dr. Charles McIntire, of Easton, Pennsylvania; The Child's Brain as Illustrated by Recent Neurological Studies, by Dr. Rupert Norton, of Washington; The Ethical Advertiser, by Dr. F. T. Rogers, of Providence, Rhode Island; How Education Fails—Physiologically Considered, by Dr. J. T. Searcy, of Tuscaloosa, Alabama; The Kindergarten, by Dr. Charles G. Stockton, of Buffalo; The Amount of Work a Growing Brain ought to Undertake, by Dr. James L. Taylor, of Wheelersburg, Ohio; and Kindergarten and Primary-grade Work in the Public Schools, and their Influence upon the Eyesight, by Dr. Casey A. Wood, of Chicago.

The American Medical Association.—The fifty-first annual meeting will be held in Denver on June 7th, 8th, 9th, and 10th, under the presidency of Surgeon-General George M. Sternberg, of the army. In addition to the president's address, the programme includes the following papers:

Section in Diseases of Children.—Address of the chairman, by Dr. J. P. Crozer Griffith, of Philadelphia; The Influence of Dystocia in the Causation of Infantile Disease, by Dr. Joseph E. Allen, of Augusta, Georgia; The Thyreoid Treatment in Early Myxœdema and Cretinism in Young Children, by Dr. Frederic Bierhoff; Blood Examinations in Pædiatric Practice, by Dr. S. E. Woody, of Louisville; Of the Value of Eye Symptoms in Meningitis, by Dr. A. Edward Davis; Some Additional Researches on the Poisons found in Milk and Milk Products, by Dr. Victor C. Vaughan, of Ann Arbor, Michigan; Tuberculous Arthritis in Children, by Dr. John Ridlon, of Chicago; Some Skin Eruptions which are Confounded with Infantile Syphilis, by Dr. Charles W. Allen, of New York; The Preventive Treatment of Tuberculosis in Children with Hereditary Predisposition, by Dr. John A. Robinson, of Chicago; Fracture of the Clavicle in Children, with Special Reference to Treatment by a Modification of Sayre's Method in over Two Hundred Cases, by Dr. A. Ernest Gallant, of New York; Whooping-cough, by Dr. R. B. Gilbert, of Louisville; Eczema in Four Branches of a Family, by Dr. Ella M. Patton, of Quincy, Illinois; A Report of some Odd Results in the Treatment of Diphtheria with Antitoxine, by Dr. Henry A. Strecker, of Philadelphia; Influenza in Children, by Dr. James J. Concannon; The Treatment of Congenital Infantile Syphilis, by Dr. Charles S. Shaw, of Pittsburgh; The Mechanical Management of Difficult Defæcation in Infants, by Dr. Thomas C. Martin, of Cleveland; The Subnormal Temperature in Infectious Diseases, by Dr. Henry H. Freund, of Philadelphia; The Influence of the Climate of Colorado on the Diseases of Children, by Dr. C. F. Gardiner, of Colorado Springs; Tetany in a Child Eighteen Months Old, by Dr. Edward H. Small, of Pittsburgh; Tetany in Infancy, by Dr. J. Lovette Morse, of Boston; Pneumonia—the Laborde Treatment by Artificial Respiration, by Dr. A. E. Roussel, of Philadelphia; Clinical Studies of Multiple Neuritis in Young Children, by Dr. Annie S. Daniel; The Treatment of Tuberculosis in Children in New York City—Remarks Based on Ten Years' Experience, by Dr. Louis Fischer, of New York; The Treatment of Congenital Talipes, by Dr. Harriet E. Garrison, of Dixon, Illinois; The Debility of Adolescence, by Dr. Louis F. Bishop, of New York; Diphtheria and Intubation, by Dr. Solomon Solis-Cohen, of Philadelphia; The Diagnostic Value of Tuberculin, by Dr. Dillon Brown, of New York; Some New Facts concerning Scarlet Fever, by Dr. Joseph W. Stickler, of Orange, New Jersey; Formative Nutrition, by Dr. H. W. Scaife, of Chicago; Tuberculosis of the Iris, by Dr. A. G. Thompson and Dr. Samuel J. Gittleson, of Philadelphia; Tuberculous Peritonitis, by Dr. F. F. Lawrence, of Columbus, Ohio; Cyclic Vomiting in Children, by Dr. Charles G. Jennings, of Detroit; Auto-infection *vs.* Typhoid Fever, as Seen in Young Children, by Dr. W. C. Hollopeter, of Philadelphia; Data derived from a Hundred Cases of Laryngeal Diphtheria, including Forty-five Intubations, by Dr. Rosa Engelman, of Chicago; Diphtheria and Tuberculous Diseases, by Dr. Edwin Klebs, of Chicago; The Management of Infectious Diseases in Children, by Dr. I. N. Love, of St. Louis; Is the Use of the Term Typhoid Pneumonia Justifiable? A Case in Point, by Dr. Henry E. Tuley, of Louisville; Neurotic Purpura, by Dr. Francis A. Thompson, of Milwaukee; Mortality in Children Due to Neglect, for which the Physician is Responsible, by Dr. W. A. Dixon, of Ripley, Ohio; Dentition, by Dr. Joseph Clements, of Kansas City; Observations in Diphtheria, by Dr. H. D. Jerowitz, of Kansas City; What Influence do Stimulants and Narcotics Exert on the Development of the Child? by Dr. E. Stuver, of Rawlins, Wyoming; Stomach Diseases, by Dr. C. D. Spivak, of Denver; Gastro-intestinal Choleriform Diarrhœa, by Dr. Edward L. David, of Louisville; The Management and Treatment of Inherited Syphilis, by Dr. E. C. Davis, of Atlanta; Intubation and Diphtheria, by Dr. Robert Levy, of Denver; The Serum Treatment of Diphtheria as Viewed by the General Practitioner during the Last Year, by Dr. Alexander McAlister, of Camden, New Jersey; Demonstration in the Method of Auscultation and Percussion for the Heart and the Lungs, by Dr. Herbert B. Whitney, of Denver; Diseases of the Feeble-minded, by Dr. John M. Taylor and Dr. Frank S. Pearce, of Philadelphia; The Value of Lumbar Puncture, with Three Illustrative Cases, by Dr. John M. Taylor; The Enteric Fever in Childhood, by Dr. James C. Wilson, of Philadelphia; Milk Food in Infants, by Dr. Edwin Rosenthal, of Philadelphia; and Neural Deformities, by Dr. James W. Cokenower, of Des Moines, Iowa, and Dr. Alexander Klein, of Philadelphia.

Section in Surgery.—The Influence of Age and Race in Surgical Affections, by Dr. W. L. Rodman, of Louisville; Fracture of the Spine, by Dr. Charles K. Cole, of Helena, Montana; Gunshot Wounds, by Dr. J. D.

Griffith, of Kansas City; Radical Cure for Hernia and Hypertrophied Prostate in Old Men, by Dr. George W. Johnson, of Dunning, Illinois; Tuberculosis of the Rectum, by Dr. Joseph M. Mathews, of Louisville; The Simplest Proctoscopy, by Dr. Thomas C. Martin, of Cleveland; Nerve Grafting—Implantation of Four Inches of the Great Sciatic of a Dog in the External Popliteal of a Man, by Dr. Charles A. Powers, of Denver; The Excision of a High Rectal Carcinoma without Sacral Resection, by Dr. Nicholas Senn, of Chicago; Abdominal Cancer, by Dr. H. H. Mudd, of St. Louis; Common Defective Methods in Appendicitis Operations by Resection of the Colon, by Dr. Joseph Price, of Philadelphia; Echinococcus of the Lung, by Dr. Carl Beck, of New York; Intestinal Anastomosis, by a New Method, by Dr. William Metcalfe, of Detroit; Notes on the Chemistry of Appendix Concretions, by Dr. Robert T. Morris, of New York; Surgical Technics, by Dr. James E. Moore, of Minneapolis; Removal of the Stomach, by Dr. P. S. Connor, of Cincinnati; Appendicitis, by Dr. William H. Harsha, of Chicago; The Diagnosis and Treatment of Pus in the Kidney, by Dr. W. E. B. Davis, of Birmingham, Alabama; The Surgical Treatment of Malignant Obstructions of the Pylorus, by Dr. W. J. Mayo, of Rochester, Minnesota; The Knife in Abdominal Surgery; its Use and Abuse, by Dr. Angelo Festorazzi, of Mobile; Primary Carcinoma of the Axilla, by Dr. D. W. Graham, of Chicago; Postoperative Insanity, by Dr. R. Harvey Reed, of Rock Springs, Wyoming; The Surgical Treatment of Meningitis, by Dr. Hal C. Wyman, of Detroit; Carcinoma of the Breast, by Dr. W. F. Westmoreland, of Atlanta; The Mode of Operation in Acute Appendicitis, by Dr. Francis B. Harrington, of Boston; Is Internal Urethrotomy out of Date? by Dr. G. Frank Lydston, of Chicago; A New Method of Performing Intestinal Anastomosis and Enterorrhaphy, by Dr. Ernest Laplace, of Philadelphia; The Treatment of Congenital Dislocation of the Hip, by Dr. Harry M. Sherman, of San Francisco; A Contribution to the Surgery of the Thyreoid Gland, by Dr. Willis G. McDonald, of Albany; The Diagnosis of Appendicitis, by Dr. F. B. Tibbals, of Detroit; Tuberculous Kidney, by Dr. M. H. Richardson, of Boston; Has there been any Advance in the Healing of Contused and Lacerated Wounds? by Dr. W. B. Outten, of St. Louis; The Treatment of Cirsoid Aneurysm, by Dr. C. A. Wheaton, of St. Paul; The Treatment of Suppurative Tuberculous Peritonitis by Incision, by Dr. Robert Reyburn, of Washington; and The Use of the Mixed Toxines of Erysipelas and the Bacillus Prodigiosus in the Treatment of Inoperable Sarcoma, with Immediate and Final Results, based upon a Personal Experience of Six Years, by Dr. William B. Coley, of New York.

Section in Neurology and Medical Jurisprudence.—Is Pelvic Disease a Cause of Nervous and Mental Affection? by Dr. Frederick Peterson, of New York; Are Nervous and Mental Affections cured by Pelvic Operations? by Dr. F. X. Dercum, of Philadelphia; Nervous and Mental Affections following Pelvic Operations, by Dr. Harold N. Moyer, of Chicago; The Diagnosis of Brain Tumors, by Dr. Charles K. Mills, of Philadelphia; The Symptomatology of Brain Tumors, by Dr. Charles H. Hughes, of St. Louis; The Diagnosis of Brain Tumors without Distinct Motor Localizing Symptoms, by Dr. Robert T. Edes, of Boston; The Surgical Treatment of Brain Tumors, by Dr. W. W. Keen, of Philadelphia; The Operative Treatment of Brain Tumors from the Standpoint of the Neurologist, by Dr. Philip C. Knapp, of Boston; Double Consciousness and the Double Action of the Brain, by Dr. David Inglis, of Detroit; Those Cerebral Neuroses Miscalled Insanities, by Dr. Clarke Gapen, of Hospital, Illinois; A Form of Degeneracy, by Dr. Eugene G. Carpenter, of Cleveland; Vasomotor Storms, by Dr. Frank R. Fry, of St. Louis; The Medico-legal Value of the Röntgen Rays, by Dr. George H. Stover, of Eaton, Colorado; Paralysis Agitans, by Dr. Sanger Brown, of Chicago; Cerebral Meningitis; Some Suggestions on the Diagnosis and Treatment, by Dr. D. R. Brower, of Chicago; The Relations of Neurasthenia to the Organic Neuroses and the Acute Psychoses, by Dr. James G. Kiernan, of Chicago; A Case of Intradural Tumor of the Spine; Removal; Complete Recovery, by Dr. J. T. Eskridge, of Denver; The Symptoms Indicating Organic Nervous Disease, by Dr. Howell T. Pershing, of Denver; The Modern Treatment of Epilepsy, by Dr. Curran Pope, of Louisville; The Relations of Neurasthenia to Insanity, by Dr. John Punton, of Kansas City; Moral Insanity in Inebriety, by Dr. T. D. Crothers, of Hartford, Connecticut; The Opium Treatment of Epilepsy, by Dr. Frank C. Hoyt, of Clarinda, Iowa; The Reclassification of some Organic Nervous Diseases, by Dr. Charles K. Mills, of Philadelphia; Adipose Dolorosa, by Dr. Augustus A. Eshner, of Philadelphia; Paretic Dementia and Tabes; their Genuine and Counterfeit Varieties, by Dr. Arthur E. Mink, of St. Louis; The Finer Structure of the Nerve Cell in Health and in Disease, by Dr. Lewellys F. Barker, of Baltimore; Aphasia, with a Report of an Interesting Case, by Dr. F. E. Coulter, of Omaha, Nebraska; Travel as a Therapeutic Measure in Psychoses, by Dr. Richard Dewey, of Chicago; Melancholia, by Dr. Frank P. Norbury, of Jacksonville, Illinois; The Nervous Element in Hyperpyrexia, by Dr. C. C. Hersman, of Pittsburgh; Neural Dynamics, by Dr. W. J. Herdman, of Ann Arbor, Michigan; The Blood Changes in Nervous Diseases, by Dr. L. Bremer, of St. Louis; The Stress of Modern Civilization as a Factor in the Causation of Insanity, by Dr. Frederic S. Thomas, of Council Bluffs, Iowa; The Medico-legal Aspect of Senile Dementia, by Dr. W. B. Fletcher, of Indianapolis; Uterine Hyperæsthesia, by Dr. Ephraim Cutter; Reflex Neuroses in Women, by Dr. J. N. Upshur, of Richmond, Virginia; Hysteria in Children, by Dr. J. G. Biller, of Cherokee, Iowa; Lumbo-abdominal Permanent Drainage in Hydrocephalus, by Dr. Alexander H. Ferguson, of Chicago; How shall Consultations be Conducted by those who are to Testify as Experts? by Dr. John L. Hildreth, of Cambridge, Massachusetts; The Toxines of Erysipelas in the Treatment of Insanity, by Dr. Oscar A. King, of Chicago; The Orthopædic Treatment of Infantile Spinal Paralysis, by Dr. John Ridlon, of Chicago; Ocular Headaches, by Dr. William H. Wilder, of Chicago; Headaches caused by Errors of Refraction, by Dr. J. Elliott Colburn, of Chicago; Apoplexies without Paralysis, by Dr. William N. Bullard, of Boston; Some Causes of Wryneck, by Dr. C. M. Hobby, of Iowa City, Iowa; Neuralgia and Nerve Crises, by Dr. Charles H. Lodor, of Chicago; Functional Nervous Diseases that are Associated with Pregnancy, by Dr. Samuel Goodman, of Boston; The Neuroglia in Health and Disease, by Dr. Maximilian Herzog, of Chicago; The Result of Blood Examinations in some Forms of Insanity, in Connection with the Administration of Thyreoid Extract, by Dr. Samuel Bell, of Denver; Functional Nervous Disturbances in Pulmonary Invalids, by Dr. Sherman G. Bonney, of Denver; Two Cases of Hydrophobia, with a Suggestion as to Treatment, by Dr. Hugh T. Patrick, of Chicago; and The Characteristics of Headaches according to their Origin, by Dr. H. Gradle, of Chicago.

Section in Ophthalmology.—The Pathology of Toxic Amblyopia, by Dr. George E. de Schweinitz, of Philadelphia; The Pathology of Cataract, by Dr. Edward Jackson, of Philadelphia; The Clinical Aspects of Toxic Amblyopia, by Dr. Casey Wood, of Chicago; Some Severe Cases of Tobacco and Quinine Amblyopia, by Dr. Edward C. Ellett, of Memphis; Amblyopia from Autointoxication, by Dr. Henry B. Young, of Burlington, Iowa; The Use of Electricity in Ophthalmology, by Dr. S. Lewis Ziegler, of Philadelphia; Some Uses of Electricity in Ophthalmic Practice, by Dr. Horace M. Starkey, of Chicago; An Easily Overlooked Form of Keratitis, by Dr. Henry Gradle, of Chicago; Eye-muscle Tests with Colored Glasses, by Dr. Frank B. Eaton, of San José, California; The Percentage of Color Blindness to Normal Color Vision, as computed from 308,919 Cases, by Dr. J. A. Mullen, of Houston, Texas; Accidents in Eye Operations, by Dr. F. C. Heath, of Indianapolis; Phlyctænular Keratitis, by Dr. D. S. Reynolds, of Louisville; Bacteria One of the Chief Ætiological Factors in Diseases of the Eye, by Dr. E. O. Sisson, of Keokuk, Iowa; Mydriatics in Presbyopia, by Dr. George M. Gould, of Philadelphia; The Treatment of Affections of the Lacrymal Apparatus, by Dr. J. L. Thompson, of Indianapolis; The Conservative Treatment of Epiphora and Affections of the Lacrymal Apparatus, by Dr. S. D. Risley, of Philadelphia; The Employment of Absorbable Sutures in the Operation of "Looping" the Tendons of the Ocular Muscles, by Dr. J. O. McReynolds, of Dallas, Texas; The Value of Large Probes in the Treatment of Strictures of the Nasal Duct, by Dr. H. O. Reik, of Baltimore; The Uses of Large Lacrymal Probes, by Dr. Melville Black, of Denver; Regular Astigmatism is not always Congenital, nor is it Unchangeable, by Dr. William C. Bane, of Denver; A Case of Quinine Amaurosis, by Dr. James M. Ball, of St. Louis; The Field of Fixation, or the Home of the Guiding Sensation, by Dr. G. C. Savage, of Nashville; The Treatment of Blepharitis with Formalin, by Dr. Herbert Moulton, of Fort Smith, Arkansas; and The Uses of Aluminum for an Artificial Vitreous, by Dr. D. C. Bryant, of Omaha, Nebraska.

Section in Medicine.—Tuberculosis, by Dr. Victor C. Vaughan, of Ann Arbor, Michigan; Oxytuberculin, by Dr. Joseph O. Hirschfelder, of San Francisco; Serum Therapy in Tuberculosis, by Dr. Carl Fisch, of St. Louis; Nephritis without Albuminuria, by Dr. Edwards, of Chicago; and Thrombo-phlebitis, by Dr. Allen A. Jones, of Buffalo.

Section in Materia Medica, Pharmacy, and Therapeutics.—Aims of the Modern Treatment of Tuberculosis, by Dr. Edwin Klebs, of Chicago; The Serum Therapy of Tuberculosis, by Dr. S. O. L. Potter, of San Francisco; The Therapeutics of Pulmonary Phthisis, by Dr. Paul Paquin, of St. Louis; Tuberculin as a Diagnostic and Curative Agent, with a Report of Two Hundred and Fifty Tuberculous Cases Treated, by Dr. C. H. Whitman, of Los Angeles, California; The Practical Value of Artificial Serum in Medical Cases, by Dr. P. C. Remondino, of San Diego, California; The Use of Remedies in Diseases of the Heart and the Blood-vessels, by Dr. T. Lauder Brunton, of London, England; The Mescal Button, by Dr. D. W. Prentiss, of Washington; The Modern Intestinal Antiseptics and Astringents, by Dr. W. Frankhauser; To what Extent is Typhoid Fever Modified in its Course, Duration, Termination, or Sequelæ by the Administration of Drugs? by Dr. Frank Woodbury, of Philadelphia; Methods of Teaching Materia Medica and Therapeutics, by Dr. George H. Rohé, of Baltimore; Strychnine, by Dr. John N. Upshur, of Richmond, Virginia; The Study of Materia Medica and Therapeutics, by Dr. H. M. Bracken, of Minneapolis; The Great Therapeutic Importance of a Rational Adaptation of Cathartic Remedies to the Physiological Functions of the Gastro-intestinal System, by Dr. E. D. McDaniels, of Mobile; Why the Pharmacopœial Preparations should be Prescribed and Used by the Profession, by Dr. Leon L. Solomon, of Louisville; and The Use of Electricity by the General Practitioner, by Dr. Caleb Brown, of Sac City, Iowa.

Section in Cutaneous Medicine and Surgery.—Cutaneous Tuberculosis, by Dr. A. W. Brayton, of Indianapolis; Vegetable Parasitic Diseases of the Skin, by Dr. W. T. Corlett, of Cleveland; The Relation of Syphilis and Tuberculosis, by Dr. Lincoln Mussey, of Denver; The Causes of Baldness, by Dr. J. M. Blaine, of Denver; Two Cases of Marked Iodic Intoxication, by Dr. A. H. Ohmann-Dumesnil, of St. Louis; and The Treatment of Pigmentary Diseases of the Skin, by Dr. John V. Shoemaker, of Philadelphia.

Section in Obstetrics and Diseases of Women.—The Pathological Conditions Existing in Uterine and Nervous Diseases, by Dr. Lewis S. McMurtry, of Louisville; The Association of Uterine and Nervous Disturbances, by Dr. Joseph Eastman, of Indianapolis; The Indications and Contraindications for Surgical Interference, by Dr. Franklin Martin, of Chicago; and A Plea for the more Correct Application of the Emmet Method in Plastic Surgery, by Dr. W. D. Haggard, Jr., of Nashville.

The American Association of Genito-urinary Surgeons.—The twelfth annual meeting will be held in West Point, New York, on June 7th and 8th, under the presidency of Dr. J. William White, of Philadelphia. In addition to the president's address, the programme includes the following papers:

Clinical Notes on Syphilis, by Dr. J. A. Fordyce, of New York; The Pathology of Chancre and Chancroid, by Dr. E. E. King, of Toronto; Cases of Recurrence of Stone in the Bladder, by Dr. Arthur T. Cabot, of Boston; Report of a Case of Cystitis due to the Colon Bacillus, Complicated by Phosphatic Calculi, by Dr. G. K. Swinburne, of New York; A Modification of the Technique of Perineal Section, by Dr. Orville Horwitz, of Philadelphia; External Urethrotomy, by Dr. J. R. Hayden, of New York; Oxaluria, by Dr. F. Tilden Brown, of New York; Some Clinical Observations on the Use of Urotropine in Pyuria, by Dr. George E. Brewer, of New York; The Indications for Operation in Renal Tuberculosis, and the Choice of an Operative Method, by Dr. Roswell Park, of Buffalo; The Other Kidney in Nephrectomy for Renal Tuberculosis, by Dr. J. P. Bryson, of St. Louis; Reports of Cases of Renal Surgery, with Remarks upon the Choice of Operation, and Operative Technics, by Dr. Francis S. Watson, of Boston; A Consideration of the Urinary Distance as a Diagnostic Factor of Prostatic Hypertrophy, by Dr. E. L. Keyes, of New York; A Study into the Nature of Enlargement of the Prostate, by Dr. Samuel Alexander, of New York; Personal Experience in the Operative Treatment of Prostatic Obstruction, by Dr. Arthur Cabot, of Boston; Some Observations concerning the Prostate, by Dr. R. H. Greene, of New York; Recovery with Restoration of the Vesical Function following a Total Extirpation of the Prostate and Resection of the Bladder for Malignant Disease, by Dr. Eugene Fuller, of New York; The Treatment of Acute Inflammation of the Prostate, by Dr. James P. Tuttle, of New York; Catarrhal Prostatitis, by Dr. H. M. Christian, of Philadelphia; Urethritis and its Treatment, by Dr. J. Blake White, of New York; Personal Experience in the Treatment of Urethritis, by Dr. Edward Martin, of Philadelphia; Are Complete Castrates Capable of Procreation? by Dr. Frederick R. Sturgis, of New York; An Addition to the Technics of Castration for Tuberculous Disease, by Dr. E. E. King, of Toronto; Some Remarks on Tuberculous Disease of the Testicle, by Dr. Ramon Guitéras, of New York; A Report of a Case of Sclerotic Narrowing of the Meatus, by Dr. George K. Swinburne, of New York; and A General Consideration of the Contributing Factors in Hæmaturia, by Dr. W. K. Otis, of New York.

Fulminating Appendicular Inflammation. — Dr. Howard Crutcher (*Canada Lancet,* May) has been led by "the absurd injunction of a professed expert in diseases of children that 'surgeons should learn to differentiate between appendical conditions which experience has proved will yield to medical treatment, and resort to operation *only in fulminating cases,*'" to make inquiries among practical men of authority concerning the condition so happily disposed of by a *theorist's* pen. The questions he asked were: 1. Do you know of any ordinary means by which perforation can be foretold? 2. What have been your results in fulminating appendicitis? In order to avoid any confusion in regard to terminology, Dr. Crutcher defines "fulminating appendicitis" to mean "that condition when a more or less gangrenous vermiform process ruptures and permits infectious elements to escape into an unprotected peritoneal cavity." Answers to the questions above stated are recorded from Dr. Maurice Richardson, of Boston, Dr. Charles B. Nancrede, of Philadelphia, Dr. A. C. Bernays, of St. Louis, Dr. A. M. Cartledge, of Louisville, Dr. Frederic S. Dennis, of New York, Dr. Morris, of New York, Dr. Murphy, of Chicago, Dr. John A. Wyeth, of New York, Dr. Roswell Park, of Buffalo, and Dr. Matas, of New Orleans. The consensus of opinion is unanimous that it is impossible to foretell perforation, while, as a rule, when fulminating appendicitis has arrived at the stage when it can be diagnosticated as such, it is worse than useless to operate. Of his own personal experience, Dr. Crutcher says that his few recoveries in fulminating appendicitis have been due solely to exploratory laparotomies undertaken for the purpose of forestalling a perforation, and in no case had fulmination been suspected. A moderate delay would have transferred all these cases to the hopeless column. That in one case a patient recovers and in another dies, is nothing; but it is vital to know in what kind of cases death, and in what kind recovery, is likely to take place. The pathologist has about completed his labors in this field. The question for the surgeon is when *not* to operate, and the burden of proof lies upon those who oppose immediate surgical relief. Dr. Crutcher thus summarizes his conclusions:

Pain.—If violent, sudden, and persistent, it indicates probable seriousness of the attack, but nothing as to the natural defenses for limiting infection. On the other hand, absence of pain is undecisive between gangrene and resolution.

Pulse and Temperature.—While a rapid pulse and high temperature favor the destructive process, their absence affords no assurance of recovery. Referring to this, Tyson remarks that *too much stress can not be laid upon the fact that there may be gangrenous appendicitis in the presence of normal temperature.*

Shock.—The presence of shock, if undoubted, is a very grave symptom, generally indicating perforation. On the other hand, the most deadly attacks often occur without it.

Sensitiveness.—If persistent and highly developed, it generally indicates destructive inflammation, but gives no clew concerning the limitations of infection.

The Expression.—This is of material value before the development of grave conditions.

Perforation.—This can no more be foretold than the perforation of the intestine in typhoid fever or the rupture of an aneurysm.

His own practice is to save the patient first, by operating upon non-septic tissues, if possible, and to argue the case afterward.

Suppository Doses for Children.—*Pædiatrics* for May (quoting from *Médecine moderne*) calls attention to the many advantages of rectal medication in children—viz., lesser irritability of the rectum than that of the delicate digestive organs, emotional antagonism of the child, etc. Rectal absorption is perfect, but slower than that of stomach and intestines, whence the dose may be as large as that given by the mouth and gradually increased. If the drug is dissolved in the suppository its effect is attained gradually. The following are recommended as the maximum doses of certain potent remedies for children:

Opium.—Pulvis opii may be given in suppository in doses of one sixty-sixth of a grain for each year of the child's age, and this dose may be repeated in severe cases every two hours. Toxic symptoms should be carefully watched for and the use of the remedy discontinued on their appearance. These doses are small ones, and may be increased.

Aconite shows its action in children only in large doses. We must therefore administer it in repeated small doses to obtain its effect. For example, we may give one to two drops of the tincture for a suppository in a year-old child, and increase the dose up to ten or twelve drops in twenty-four hours for each year of life.

Belladonna acts as an excellent sedative in cough, and exerts a very favorable influence on the muscle fibres of the intestine. We may use one sixth of a minim of extract of belladonna in twenty-four hours, divided into three or four suppositories, for every two years of age.

Digitalis.—Powdered digitalis is with difficulty absorbed by the rectum. The tincture should therefore be used. The maximum dose for each year of life is four drops, divided into two suppositories.

Caffeine is usually injected subcutaneously. It may, however, be administered in a suppository with equal parts of benzoate of sodium. For example, one grain and a half to a suppository, using two daily for each year of the child's life.

Quinine is best given in suppositories. The daily maximum dose is two to three grains and a third, in two suppositories, for each year of life.

Antipyrine may be given in the same dose.

Salicylic acid.—Seven grains and three quarters for each year of life, in divided doses (three or four).

Nux vomica.—One sixth of a grain for every two years, in three suppositories. Strychnine should be given only to children over ten years of age.

Mercury should only exceptionally be given *per rectum,* and then only in the form of calomel, three quarters of a grain in a suppository for each year of life.

Iodine and its preparations are exceptionally well borne by the rectum and fully absorbed. Three grains for each year of life, in two suppositories, is the maximum dose; three quarters of a grain if it is to be continued.

Bromides should be given in the same doses, except in severe spasm, when we may give fifteen grains for each year of life, in two suppositories rapidly following each other; for example, in laryngismus stridulus.

The foregoing is a general review of the drugs mainly used in rectal medication in children. Where tolerance has been established the doses should be increased.

The " Dum-dum " Bullets.—At the recent Congress of the German Society of Surgery, in Berlin, Dr. von Bruns, of Tübingen (*Gazette hebdomadaire de médecine et de chirurgie,* May 5th), recorded his results in a number of experiments with the so-called " dum-dum " bullet fired at cadavers from a distance of about twenty-seven yards. This kind of bullet was first made by the British soldiers in India, who, finding that the new Lee-Metford small-bore projectile often pierced a man without stopping him, stripped off the casing from the end of the bullet. Dr. von Bruns had found that these bullets were infinitely more destructive than any hitherto in use. In the greater number of his experiments the bullets had produced such complete destruction of the soft parts that the orifices of entrance and exit were no longer distinguishable; and in the cases where the entrance wound could be identified it no longer presented the form of a simple puncture, as in the case of balls with the casing entire, but of a lacerated wound with numerous flaps. The bullet caused, in fact, a veritable explosion. The destruction was still more pronounced when the ball struck a bone. The denuded projectile, on striking the flesh, was immediately flattened, and this caused the casing to separate into numerous rolled fragments. The lead itself shivered into a multitude of pieces, which were scattered in the tissues. From these experiments Dr. von Bruns maintained that projectiles entirely enveloped in their casings were more benign, and that this new bullet ought to be condemned as inhuman. He recommended that all bullets whose points were uncased should be prohibited by international consent, and that the military authorities should take the initiative in this direction.

The Young Practitioner and the Sick Child.—Mr. Edmund Owen, F. R. C. S. (*St. Mary's Hospital Gazette,* March), in a paper read before the Medical Society of St. Mary's Hospital, London, has some very pertinent remarks upon this subject, and, moreover, makes them in his own inimitable way which has given him first rank as a lecturer. He says that when his hearers caught sight of the foregoing title to his forthcoming paper they probably said to themselves: " I know just what line he will take; he will tell us that the young practitioner probably knows nothing about the sick child, and that, for his part, he is sincerely sorry for them both." Gentlemen, he continued, if this is actually what you did say to yourselves, you were perfectly correct! But I am going to do something more than express my sorrow for the newly-fledged practitioner and his unfledged patient; I am going to try to find out how it is that he does not know what is the matter with the child nor how to treat it, and then to make suggestions which may help toward placing him on a surer footing in these respects.

Mr. Owen makes a great point of advising his student hearers to spend some part of the fifth year of study in the dissecting room practically working at the anatomy of the child, with special reference to the development of the bones and the surgery of the joints. As to obscure cases, he says, " Parents are sometimes unreasonable," and he strongly advises, when necessary, a frank confession of ignorance and the adoption of a waiting policy, enforcing this course by the avowal that this is what he does himself. Mr. Owen says:

I confess that I like now and then to meet a young practitioner who " doesn't know." I do not mean that I rejoice exceedingly when I meet a man who doesn't know that acute osteomyelitis of a boy's tibia is not erysipelas, for instance, but the man who says that he can not arrive at a satisfactory answer to some clinical enigma and asks help in rendering the correct solution. That is the sort of man to be trusted!

Unfortunately, the rank and file can not always afford to dare to do what their leaders may; and while, professionally, Mr. Owen's confidence would be highly valued, practically it is the admittedly " unreasonable " parent's confidence that pays the rent and the butcher's bill. As to methods of examination, Mr. Owen says that the examiner who asks the fewest questions, whether of child or of adult, usually gets on best at a clinical examination. He then enumerates a series of " Don'ts " which are always useful if you can only remember them at the right time. Don't ask a child " how long it has had it," whatever " it " may be. You will probably be told " Oh, a long while "—a week is a long while to a child, even perhaps a few hours. Don't at once attack a child with a stethoscope or even let it be hanging in a hideous festoon about your neck. Don't attempt to examine a child until you have him undressed, though on this point a caution as to undue exposure is added, with a dig at those who seem terribly afraid of overlooking something in auscultation which the autopsy will reveal. On the question of temperature-taking Mr. Owen says: Further, don't at once ask the mother, grandmother, or nurse what the child's temperature is. It really does not matter; and if it is high, the involuntary expression of your face is very apt to cause the mother needless distress. You have no idea of the amount of domestic alarm and unrest a clinical thermometer has caused! A clinical thermometer in the hands of the mother may cause as much unhappiness in the household as a toy pistol in the hands of her eldest boy. Sometimes I forbid a child's temperature being taken—especially when I have reason for thinking that it is likely to go up, and so inevitably to cause alarm.

Special attention is directed by the author to the careful diagnostic study of rashes, not only of the specific fevers, but also of eczematous, diphtheritic, septic, and ptomaine rashes. Mr. Owen's humor shows itself in his description of the difficult part the young practitioner often has to play while the grandmother and the monthly nurse are in the house. It is then generally two to one against him, for though in a crisis the infant's father may side with him, his support does not actually amount to much. The infant's grandmother he describes as frequently a very ill-informed person with strong pretension based upon the practical instruction which she acquired in years long gone by; and he adds that in his experience grandmothers are not fitted for the care of modern infants. As to the monthly nurse, she hurls at the young practitioner's head scraps of clinical experience gleaned from Doctor So-and-So, many years his senior, and watches for the effect. But where we should have expected most from Mr. Owen's paper we are somewhat disappointed. On artificial feeding, and in the wholesale condemnation of artificial foods, he is very strong. "When I see," he says, "a miserable anæmic child, with a large head and pinched face and chest, a distended belly, big-ended bones and deflected limbs, I know that the child has been reared upon condensed milk and other artificial foods." He tells us all about what we ought not to do in the way of artificially feeding infants, and incidentally remarks: "You will notice—your physiological education will have directed your attention to it—that the Creator intended that the milk should always be given quite fresh—'alive,' as it were. It was not even to be stored away in any vascular receptacle, like the bile, for instance, but was to be secreted just as, and when, it is wanted. The sailor in the Arctic Circle, who subsists on a diet which is perfectly 'physiological,' except for its want of fresh animal juices and fresh vegetables, sickens and dies of scurvy." But he does not tell us what we *are* to do when the mother either can not, for the sake of herself, her child, or both, or will not, nurse her child. To be sure, he makes a vague reference to fresh milk as a princely diet—meaning thereby cow's milk; but what with milk as a mode of conveyance of diphtheria, milk as a mode of conveyance of typhoid, the difficulties of milk composition in all its various aspects in relation to human milk, etc., we are left by the author just when what we most need is light. Even our efforts to "humanize" cow's milk have to bring us into the clutches of the condemned manufacturer. We await a series of "Do's" from Mr. Owen to counterbalance the bare negation of his therapeutic protestantism.

The Medical Society of North Carolina.—We learn from the *Virginia Medical Semimonthly* for May 13th that at the forty-fifth annual session, held in Charlotte on May 3d, the next annual meeting was appointed to be held in Asheville during the second week in May, 1899. The following is a list of the officers elect: President, Dr. L. J. Picot, of Littleton; vice-presidents, Dr. J. W. Faison, of Charlotte, Dr. H. H. Dodson and Dr. John White, of Lexington, and Dr. M. A. Fletcher, of Asheville; secretary, Dr. George W. Pressley; treasurer, Dr. G. T. Sykes; orator, Dr. H. S. Lott; essayist, Dr. C. L. Minor; leader of debate, Dr. J. P. Munroe; delegates to the South Carolina Medical Society, Dr. J. W. Faison, Dr. G. H. Morrow, and Dr. W. C. Pate; delegates to the Medical Society of Virginia, Dr. J. C. Walton, Dr. W. A. Graham, Dr. A. G. Carr, Dr. Sam L. Montgomery, and Dr. W. H. H. Cobb.

The Nature of the Lesions in Typhoid Fever.—Dr. F. B. Mallory (*Journal of the Boston Society of Medical Sciences*, April) has arrived at the following conclusions as the result of a histological study of nineteen cases of typhoid fever, in seven of which the intestinal lesions were in the stage of necrosis or an earlier one. He says that histologically the essential lesions of typhoid fever are proliferative and that they stand in close relationship to those of tuberculosis, but that the typhoid bacillus bears no such intimate relation to the lesions of typhoid fever as the tubercle bacillus does to the lesions of tuberculosis. In typhoid fever the lesions are essentially diffuse, in tuberculosis they are focal. Experimental work with the typhoid bacillus he regards as unfortunately out of the question, owing to the insusceptibility of animals. Judging from the gross and histological lesions alone, he considers that we have to do in typhoid fever with a mild toxic agent which in part is absorbed from the intestinal tract, in part is produced within the body in the various organs and in the blood.

The intestinal lesions depend upon absorption, mainly through the lymphatic apparatus, but in part through the capillaries. The toxine is diffusible, as is shown by the extension of the lesions in the submucous, serous, and muscular coats to a varying distance outside of the path of absorption. The lesions in the mesenteric lymph nodes depend on absorption through the lymphatics, while those in the rest of the body depend primarily on the toxine in the general circulation. In the liver they are partly primary, as is shown by the proliferation of the capillary endothelium, partly secondary and dependent on cell embolism, as already demonstrated, while those in the spleen and bone marrow depend chiefly, at least, on the toxine in the circulation. How much of the toxine is produced within the organs themselves, he regards it as impossible to say, but the abundant supply and the slowness of the circulation in those organs probably have some effect in the production of the lesions. Finally, he concludes that we may have more or less abundant formation of phagocytic cells generally throughout the lymphatics of the body, as shown by the presence of phagocytic cells in the lymph vessels of the heart, lungs, testicles, and pia-arachnoid, and by the focal lesions to which they may give rise. Here the lesions are evidently due to the elimination of the toxine from the blood-vessels and its reabsorption through the lymphatics. To this same class belong the lesions in lymphatics around the portal vessels of the liver.

The cell changes and the lesions above described are not, he says, peculiar to typhoid fever, except in location, sequence, and degree.

Dr. Tryon and the International Congress of Hygiene in Madrid.—According to the *Pharmaceutical Era*, Dr. Tryon is reported to have spoken highly of the reception accorded to the American delegates. He said that Dr. Girard, who spoke at the opening meeting, expressed in a few words his hope that all political differences would be smoothed over ere the congress closed. They were the only United States delegates, and being in uniform made their position delicate. Dr. Tryon sat, of course, in the section of Naval and Military Hygiene, and read a paper on the United States Naval Museum of Hygiene at Washington, accompanied by photographs and a complete catalogue, which he offered to the president of the section. This seemed to interest the audience, for such an institution did not exist elsewhere, to the best of his knowledge. The Spaniards did certainly make great progress in hygiene since he was at Madrid fifteen years before. The new military hospital, just outside Madrid, was a model in its way, and three hundred or four hundred beds out of the seven hundred were occupied. The building (not yet complete) was constructed on the latest antiseptic principles, and had an ample water supply, electric light, etc. All the "congressists" were invited to the royal palace on Wednesday afternoon, April 13th. They were shown into a handsome suite of reception rooms, and the queen regent and little king entered, followed by a guard of honor, and spoke to most of the official foreign delegates, himself included. Queen Christina was an excellent linguist and addressed him in English, but they subsequently drifted into French. She had a charming manner, and was evidently anxious to show that no ill feeling existed. To judge by the way the delegates were received and entertained everywhere, no one could believe that any political crisis existed.

The Clinical and Bacteriological Diagnosis of Diseases of the Throat.—Dr. Edward K. Root, medical inspector to the board of health, Hartford, Connecticut (*Yale Medical Journal,* May), reports the resulting observations from the records of the board of health laboratory for the past three years. These records show from a consideration of all the fatal cases that the Klebs-Loeffler bacillus in pure culture is the most dangerous, that the staphylococcus is next in order of virulence, and that pure cultures of staphylococcus may be, and often are, fatal, both from exudate obstructing the larynx and from subsequent toxæmia. Streptococci were found in abundance in every case where the glands of the neck were enlarged, and in all the anginas of scarlet fever, while in all cases that showed pure culture of the Klebs-Loeffler bacillus, in non-complicated diphtheria, he had seldom seen glandular swelling. In most laryngeal cases in young children there were pure cultures of Klebs-Loeffler bacillus. The following clinical pictures are given:

The Klebs-Loeffler Bacillus in Pure Culture.—A gradual, rather insidious onset, in children, often considered a mild cold until laryngeal stenosis becomes evident; very moderate temperature, usually under 100° F.; little or no enlargement of the glands of the neck; small, typical, thick, gray exudate, usually on the pillars of the fauces or pharynx, seldom on the tonsils; the membrane does not wash away—if it is removed with force, the surface bleeds. In croup cases there may be no visible membrane in the pharynx, only a moderate degree of redness. If the disease continues beyond the fifth day, symptoms of toxæmia appear; rapid, irregular pulse, albumin in the urine, and other symptoms of systemic infection; paralysis of some group of muscles, perhaps of the heart, with fatal results.

Klebs-Loeffler Bacillus and Staphylococcus.—Onset more abrupt; often chill or chilliness; much higher temperature; more active febrile symptoms; more abundant discharge from affected surface, frequently purulent.

Klebs-Loeffler and Streptococcus.—Chill, fever, marked prostration, headache and glandular involvement; temperature, 102° or higher; membrane forms slowly, but mucous membrane is covered with thick mucus; usually a considerable degree of pain in the throat. In all the forms in which mixed infection is found, it would seem as if the prognosis should be graver. Yet the majority of the fatal cases were in pure cultures, probably because they occurred in children under five years of age, and death resulted from suffocation.

In *acute staphylococcus infection without the Klebs-Loeffler bacillus* there is an abrupt onset, often with a chill, pain in the back and limbs, a temperature of 103° and 104° or higher, painful throat, thin exudate, apparently a thin gloss over a reddened mucous membrane, easy and free discharge of muco-pus. In children these cases, if laryngeal, may be promptly fatal by closure of the glottis and laryngeal space. They do not, as a rule, give the previous history of slight cough or cold common in true diphtheria. If the larynx is not involved, toxæmia and death may follow in weakly children, but this is rare. In adults the course of the disease is much shorter; the temperature subsides after remaining high from twenty-four to forty-eight hours, and with the subsidence of the fever the exudate disappears and convalescence follows. The author has never seen paralysis follow these cases, nor is the prostration more than ordinary.

Acute Streptococcus Infection in Pure Culture.—In addition to the general picture outlined above, there is marked glandular involvement, the glands at the angle of the jaw usually being the first affected, then the submaxillary, and lastly those of the triangles of the neck. With this comes not infrequently involvement of the Eustachian tube and middle ear; the glands often break down and suppurate, and symptoms of septicæmia may complicate the disease. Another symptom often observed, particularly in fair-skinned children, is patches of marked erythema, a vivid red and sharply defined outline usually appearing as a result of slight, transient pressure. It resembles a local erysipelas and is characteristic of a profound streptococcus infection. The most typical example of this class of cases is found in scarlet fever, in which the angina is a true streptococcus infection. It would seem as if the scarlatina poison added in some way new virulence to the streptococcus. Acute amygdalitis without suppuration is usually of this type. Suppurative forms with exudate in the crypts are more commonly due to staphylococci.

A knowledge, then, of the exact nature of the infection causing the disease is of great value in the prognosis. In pure diphtheria—pure cultures of the Klebs-Loeffler bacillus—the danger is, first, laryngeal stenosis and death from suffocation; second, the toxæmia. Neither fever nor complications of distant organs are so important as the two conditions named. Moreover, when we are once convinced that the morbid process is due to this single organism, the question as to treatment may be promptly settled. All observers of diphtheria at the present time are united in ascribing to diphtheria antitoxine the power to so stimulate the resisting properties of the system as, first, to arrest the spread of the membrane and the growth of the bacilli, and, second, to neutralize and destroy existing toxines. The discovery of the streptococcus, either in pure culture or in profuse growth, should warn us that glandular enlargements, with all their distressing sequelæ, may be expected, that the Eustachian tube may become involved and subsequently the middle ear diseased, and that the recovery will be retarded by these complications. The staphylococcus is observed especially in cultures from the nasal cavity, and the existence of free discharge may confidently be predicted and all the complications which that condition implies.

As to the treatment of these conditions, diphtheria antitoxine is now regarded as specific against the symptoms and toxic effects of the true Klebs-Loeffler bacillus. Antistreptococcus serum is not yet available, although much progress has been made in that direction. In staphylococcus infection we have no specific save the usual supporting and stimulating treatment. The salicylate of sodium will in many instances arrest acute staphylococcus infection beginning on the tonsils.

A Soluble Typhoid Toxine and the Antitoxic Serum of Typhoid Fever.—The *Progrès médical* for April 16th reports a communication to the Congress of Hygiene at Madrid by Dr. Chantemesse, professor of experimental pathology in the Faculty of Medicine of Paris. It is easy, he says, to inoculate animals in the laboratory against increasing doses of typhoid bacilli, living or dead, and to obtain from them a serum possessed of protective properties. But, he asks, would such a serum possess curative properties in human typhoid? His first researches, in 1892, in conjunction with Widal had shown them that this serum was lacking in any true efficacy against typhoid fever, which disease was the result of an infection and intoxication already established, and called therefore for a substance both bactericidal and antitoxic. The poison was secreted rapidly in the bodies of typhoid-fever patients; yet it was sought for in vain in the culture media of the typhoid bacillus, which, when deprived of bacilli by filtration, was not toxic, or at most but very slightly so. In January, 1897, the author made known the means of obtaining this toxine in sufficient quantity for the production of an antitoxic serum, and described some of its characteristics, the most striking of which were its rapid production in given media and its no less rapid disappearance in the culture media under the influence of the oxygen of the air. Dr. Chantemesse employs a solution of peptone of spleen, prepared by digesting this organ in acidulated water, with pig pepsin, after the method of M. Louis Martin, and neutralized before sterilization. In each vessel of the culture the liquid is widely exposed to the air. The slight alkalinity never disappears, but on the contrary becomes accentuated. The medium is then sown with a very virulent typhoid bacillus from the body of an animal or, better still, one which has been left for only twenty-four hours in a collodion sac buried in the peritonæum. At the end of twenty-four hours the culture is very abundant and odorless. After five or six days the toxine secretion is at its maximum, and diminishes little by little. The bouillon containing this soluble toxine is then called toxine. Dr. Chantemesse then describes the modifications in the toxine which supervene after five days' heating, the action of chemical agents upon it, and also that of physical forces, light, and heat, and its action upon animals. Chickens and pigeons are very resistant; frogs, mice, guinea-pigs, rabbits, sheep, and especially horses particularly susceptible.

He has succeeded, thanks to the liberality of the Pasteur Institute, in immunizing horses against the toxine. This is a very slow and painful process, the toxine remaining a long time unmodified in the animal's blood. The antitoxine with which his experiments were made was obtained from a horse that had been immunized for two years and had received during that time hypodermically and intravenously more than six litres of toxine. Dr. Chantemesse asserts that its serum possesses preventive and therapeutic properties against both infection and typhoid intoxication. His experiments show that guinea-pigs which have received the day before $\frac{1}{200}$th, $\frac{1}{100}$th, and $\frac{1}{50}$th of a cubic centimetre of the serum respectively, gave the following results when injected with the lethal dose of toxine that sufficed to kill the control animals in from five to six hours: Those that received $\frac{1}{50}$th of a cubic centimetre survived; those that had $\frac{1}{100}$th lived about forty-eight hours, while in those that had $\frac{1}{200}$th death was delayed by twenty-four hours. Similar experiments with rabbits showed equivalent results. The author says that his experiments show that those animals which have before inoculation any organic taint—for instance, pseudo-tuberculosis, etc.—are less resistant to the toxine, and a much larger dose of serum is necessary to protect them. Experiments were recorded showing respectively the bactericidal and the antitoxic properties of the serum. In a case of its use on the human subject the serum acted equally well as an antitoxine, suppressing the nervous symptoms, lowering the temperature, and ultimately effecting a cure.

The Late Dr. David W. Yandell, of Louisville.—The *Nashville Journal of Medicine and Surgery* for May takes the following from the *Nashville Daily American*:

"There died at Louisville, Kentucky, May 3d, Dr. David W. Yandell, one of the most eminent surgeons that this country has ever produced. Dr. Yandell was born at Craggie Bluff, Tennessee, near Murfreesboro, September 4, 1826. He was not only preeminent as a surgeon, but as a speaker and *raconteur* was unsurpassed. No banquet or social gathering in Kentucky was thought complete unless David Yandell was on hand. With the late Dr. W. T. Briggs, of Nashville, he shared the honor of being the first surgeon of the South. The late Paul F. Eve as a specialist in his line was without an equal in America, but these two as surgeons in general practice stood first. Dr. Yandell was the surgeon who attended Albert Sidney Johnston, at Shiloh, and many a time had Dr. Yandell been heard to tell how he importuned the great Confederate leader, who was regarded by many as the military genius of the war, to submit to treatment and to allow others to look after the fighting for the time being.

"It is a little remarkable how Dr. Yandell and Dr. Briggs crossed paths in life; Dr. Yandell, born in Tennessee, going to Kentucky, and Dr. Briggs, born in Kentucky, coming to Tennessee. Yandell became a Kentuckian of the Kentuckians, and Briggs became a Tennessean of the Tennesseans.

"Those who knew David W. Yandell in his prime can hardly realize that for the past five years he had been mentally and physically a wreck. First his health declined, and then his mental faculties weakened, and ever since, until death, he was a confirmed invalid. He was tall of stature, with massive frame and magnificent presence. Whether seen in an ordinary crowd or in an assembly of great men, David W. Yandell was always easily recognized as a man cast in no ordinary mold. He was great as a surgeon, useful as a citizen, and delightful as a friend, and well may his profession, his country, and the wide circle of friends whom he had drawn about him mourn the death of this princely character."

Tuberculosis and Marriage.—The physician is often consulted as to whether marriage is permissible to a young man or woman the victim, or suspected victim, of tuberculosis. In principle, there can be no doubt as to the proper answer. In the interests of the future progeny, and consequently of the race, there can be no question that marriages should be allowed only between people of indisputably good health. But the physician is never consulted upon a question of principle, but always upon a particular case. And this particular case is composed of so many factors, and complicated by such diverse considerations, that the physician often hesitates under the weight of responsibility. The principle is immutable in spirit, but he is often led to concessions so much the easier since he knows that many ask his advice with their minds made up and with no intention of following it if it does not coincide with their views.

A young doctor was consulted one day by a patient whom he had had under his care suffering from undoubted tuberculosis of more than a year's duration. The patient was in extraordinarily good spirits, and his physician found him very much better and congratulated him, when the patient asked, "Do you think, doctor, I may marry?" The doctor was embarrassed. To tell him all he feared would be to dash his new-found spirits to the ground; to let him accomplish his object, to become accomplice to a crime. So he temporized by saying that he must submit to two years' further treatment before the doctor could authorize him to marry. The patient went away much cast down and never returned. Ten years later the chances of life brought these two men once more together. The *quondam* patient had married the next day after the consultation. He was perfectly cured; his children, already well grown, were superb specimens of childhood. The patient maintained that he had never been phthisical, and that the physician had been in grievous error. It was true the physician had been in error; but it was an error not of diagnosis, but of prognosis. As against this fortunate case, in ten years, he has seen too often events justify his fears; but, nevertheless, more tolerant and less pessimistic, he has acquired the conviction that the future of phthisis depends as much upon the patient as upon the disease. That physician has more white hairs and fewer illusions; he defies the implacable formulas of his early career. He weighs each case individually, gives his best advice, and leaves those interested to decide the matter in their own fashion (*Echo médical du Nord,* May 1st). There is a lesson here that might with advantage be carefully pondered by some of those extremists who are so fond of the overlegislation to which we referred in our issue of April 23d.

Bilateral Abscess of the Sæptum Nasi.—Dr. W. Milligan (*Journal of Laryngology, Rhinology, and Otology,* May) records the case of a boy of thirteen who, being struck accidentally on the nose with considerable force by a playmate, was found six days later to be suffering from bilateral abscess of the sæptum. The condition is thus described: Both nasal passages were almost completely blocked by soft, fluctuating, bluish-gray swellings, springing from the anterior part of the sæptum nasi upon either side. The nose itself was swollen and painful, and a muco-purulent discharge was flowing from the passages. The boy's temperature was 100.4°, his tongue furred, and his bowels constipated. A free incision, with ordinary toilet, resulted in cure without complications. Abscess of the sæptum—even single—is rare.

The Rôle of the Surgeon in Duels.—Dr. Devillers, "whose great experience in the matter of duels is well known" (*Nouveau Montpellier médical,* April 30th), gives his practical advice on this subject in *Médecine moderne,* which it may be a matter of interest, if not of practical utility, to note here. Dr. Devillers insists first of all on the duel taking place in some inhabited locality, so that the wounded man may be transported to where he can be properly cared for. He takes as little as possible with him, carrying everything in the case of his Paquelin cautery, which he empties of its contents, except the alcohol lamp. Here is his armamentarium: 1. Two eight-metre bandages. 2. Iodoform or salol gauze. 3. Some antiseptic powder, traumatol, iodoform, or salol. 4. A bottle containing two hundred grammes of Van Swieten's solution. 5. A small bottle of collodion. In his pockets he carries his pocket-case, which contains in addition to the usual instruments a Reverdin's needle, some silver wire, and hæmostatic forceps. 7. A small packet of absorbent cotton. 8. A Pravaz syringe with some morphine solution in case of wound of the abdomen, to lessen pain and immobilize the intestine. It is customary, we learn, to call for the physician, "as for a wedding," in a landau. His proper place in the vehicle is a subject depending upon the age, etc., of the seconds. While the seconds are arranging the details the surgeon exchanges courtesies with his *confrère,* and they promise mutual aid. In the event of swords being chosen, each surgeon ought to take possession of the pair of swords brought by his principal, and render them aseptic. There are two methods of doing this: The first consists in passing the blade for an extent of from twenty-five to thirty centimetres through the flame of a spirit lamp; the second consists in rubbing the blade with cotton saturated in the antiseptic solution which has been brought. This procedure is admittedly less efficacious than the other, but Dr. Devillers prefers it because the flame untempers the steel and affects the point. When pistols are used, the doctor has no duty in regard to them. "We have not yet arrived at an attempt to asepticize balls, which precaution would, moreover, prove futile, since the seconds ordinarily take care to make this kind of *rencontre* as harmless as possible in the simplest manner—viz., by loading the pistols with balls of too small a calibre, whence it is quite an accidental occurrence when a severe wound ensues upon a pistol duel"! When the combatants are in position, the director takes his place on one side midway between them, the seconds and physicians facing him on the other. During the duel the physician must not intervene, save at the request of the seconds; but he is charged with watching the swords, to see that in no case does the point touch the earth. Should that occur, it is his duty to claim it and render it once more aseptic. What is the duty of the surgeon when, one of the combatants being touched, he is appealed to for his opinion? Dr. Devillers says he should hold himself strictly to the terms of the *procès-verbal,* which says that the duel shall cease "on the advice of the doctors when one of the adversaries shall be in consequence of his wound in a state of marked inferiority." From this Dr. Devillers concludes that the doctor is not called upon to occupy himself with the state of the breathing, the fatigue, or the moral condition, such as fear, anger, etc., of the combatants. The situation and probable depth of the wound alone ought to guide him, so far as can be approximately ascertained without probing, from the appearance of the sword which caused it. And here comes in one of the inconveniences of modern aseptics. They dim the brilliancy of the steel, and so render this mode of estimating delusive. The blood, however, will often be a sufficient indication. Dr. Devillers says: "For my part, I never stop the duel if there is only an abrasion or a surface wound; I have too much respect for the duel to allow it on any account to be rendered ridiculous, thinking, as I believe rightly, that in a nation where every one is a soldier it is better to settle one's differences sword in hand rather than by the demoralizing spectacle of a pugilistic encounter."

Nasopharyngitis Sicca as a Cause of Dyspnœa.—Saenher, of Magdeburg (*Münchener medicinische Wochenschrift; Gazzetta degli ospedali e delle cliniche,* May 3d), on examining the nose of a patient for suspected polypus, because he could not breathe with the mouth closed, found an absence of any new formation or tumefaction of the mucous membrane, and no other abnormity capable of contracting the lumen of the nostril or impeding it in any way. On the contrary, the canal was found to be more roomy than usual, the mucous membrane presenting the characters of dry catarrh—in short, there was no obstacle to the free entrance of air. Puzzled, Dr. Saenher ordered a dilute iodine-glycerin solution as a nasal wash, and bade the patient return in a few days. In the mean time he sought in rhinological literature for some light on this paradox, but in vain. When the patient returned, he was much relieved, and on examination the mucous membrane, from being arid and pallid, had become moist and rosy; air was traversing the nostril freely, and the dyspnœa was overcome.

The Effects of Tight Lacing.—Dr. W. E. Fitch (*Virginia Medical Semimonthly,* May 13th) arrives at the following conclusions:

1. The normal breathing of woman is like that of man—abdominal; tight lacing changes the type to costal.

2. The pelvic organs normally make a considerable excursion with each respiration. Tight lacing in the upright position checks this motion almost entirely.

3. Sitting or leaning forward lessens intra-abdominal pressure. Tight lacing in these positions greatly increases intra-abdominal pressure.

4. The uterus is displaced downward by tight lacing from an inch to two inches and a half. The pelvic floor is bulged downward and the circulation rendered sluggish.

5. Uterine development is greatest from the twelfth to the sixteenth year. Tight lacing is usually begun at this—the period of the beginning of uterine development.

The first of these propositions is given on the authority of Wilberforce Smith (*British Medical Journal,* October 11, 1890). The common physiological teaching describes both abdominal and thoracic breathing as being normally present in all individuals, male and female, but in different proportions, abdominal respiration preponderating in the male, and thoracic in the female. The author points out, however, that women when asleep breathe like men; and that all animals, male and female, breathe alike. Mays, he says, has shown that Indian girls breathe like men, and Kellogg has confirmed this observation among several Indian tribes. Chinese women, agricultural women, English pit-brow lassies, and civilized women who have been loosely clothed about the waist, all show the same type of abdominal breathing; and the flimsy argument that chest breathing is normal to woman, because it is necessary during gestation, goes to the wind when it is shown that even in the last months of pregnancy abdominal respiratory movements predominate over thoracic movements. The most active muscle of respiration, the diaphragm, adapts itself to circumstances, so that long-distance runners in the quiescent state have least costal breathing of all classes of men.

Bismarck and his Physician.—Bismarck (*London Mail; Indiana Medical Journal,* May) has been so long in the position of asking, not answering, questions, that in his old age he is apt to get impatient whenever his physician displays the inquisitiveness necessarily incidental to his profession. On one occasion the prince is said to have exclaimed, "What on earth are you driving at, doctor?" whereupon the physician, being no less firm and blunt than his patient, replied: "I am at your orders, Prince, but if you wish to be treated without being questioned, you had better send for the veterinary surgeon, who is accustomed to physic in that way."

Early Symptoms of Osteomalacia.—M. Rissmann, *Gazette hebdomadaire de médecine et de chirurgie; Revue médicale,* May 11th) describes three groups of symptoms which, he says, aid in the early diagnosis of osteomalacia before the softening of the bones is perceptible. They are: 1. The sensibility of the bones to pressure, especially those of the vertebral column near the lumbar region. 2. Paretic phenomena affecting different pelvic and femoral muscles, which, if at all pronounced, are manifested by a vacillating gait, "goose-walk." 3. Special subjective pains, either osteoalgetic or neuralgic. He considers the exaggeration of the reflexes which has been described as occurring in osteomalacia inconstant and of small importance, as well as the contraction of the levator ani and of the adductors. Phosphorus has given excellent results, and the author thinks that energetic treatment, if initiated in good time, will cut short this grave disease.

The Trinity of Physical Beauty.—Dr. C. P. Robbins (*New England Medical Monthly; St. Louis Clinique,* May) refers to the three great powers—viz., respiration, circulation, and digestion—as the Trinity of Physical Beauty ("Tripod" strikes us as a more suitable term). The essential factors which govern the Trinity of Physical Beauty he enumerates as: 1. Abundance of pure air and proper breathing. 2. A wholesome diet, properly selected and adapted to the needs of the individual and taken with moderation. 3. Daily bathing and exercise symmetrically (?) engaged in. He adds this very forcibly expressed sentence: "For health itself is life at par value governed by the laws of hygiene."

Immobilization of the Thorax as an Aid in Tuberculosis.—M. Bloch has presented to the Société de biologie (*Tribune médicale,* May 4th) the results in the treatment of tuberculous patients obtained at the convalescent home of Vincennes by the application of a plaster casing to the affected side of the chest. This procedure calmed the cough, caused localized tenderness to disappear, checked vomiting, and sensibly diminished fever. Auscultation after the removal of the apparatus —that is to say, at the end of from a fortnight to three weeks—showed a notable diminution of moist and dry râles. The author's observations were made upon thirty patients, and, although the time is too short to admit of a definite conclusion, he strongly urges the importance of giving the method a trial.

Streptococcus Rhinitis as a Possible Cause of Asthma.—M. Boucheron (*Tribune médicale,* May 4th) refers to Landouzy's opinion that true asthmatics not infrequently have an element of tuberculosis, slight, indeed, but positive, and states that if this opinion is well founded there is reason to think that other toxines also may promote the asthmatic symptom-complex, and especially the streptococcus toxine. Hence an explanation of the cure of asthma in certain cases by antistreptococcus serum. The search for streptococcus rhinitis is suggested as a consequence of the results obtained by M. Boucheron in a case of asthma where he used the antistreptococcus serum on that account.

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Original Communications.

THE CARTWRIGHT LECTURES
BEFORE THE
COLLEGE OF PHYSICIANS AND SURGEONS.

THE SURGERY OF THE STOMACH.

LECTURE III.[*]

TUMORS OF THE STOMACH, HERNIA OF THE STOMACH, GASTRECTOMY, GASTRIC ULCER.

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TUMORS OF THE STOMACH.—By tumors of the stomach I mean such localized cancers, sarcomas, or myomas as admit of removal either by gastrotomy or partial gastrectomy, as distinguished from pylorectomy or total gastrectomy for cancer. I have found but few cases reported, but these are of great interest, especially as striking evidences of the great advance recently made in gastric surgery.

Thus Rupprecht [†] reports the case of a man of fifty-two, who for fourteen years had suffered pain in the stomach and for four years had observed a tumor near the umbilicus.

The tumor was thought to be connected with the mesentery. At the operation, March 19, 1887, the tumor was found to arise from the anterior surface of the stomach near the cardia. After clamping the stomach wall the tumor was excised, leaving an opening ten centimetres in diameter, which was immediately sutured. The patient died on the fifteenth day from embolic pneumonia. The suture in the stomach was intact. The tumor was found to be a leiomyoma.

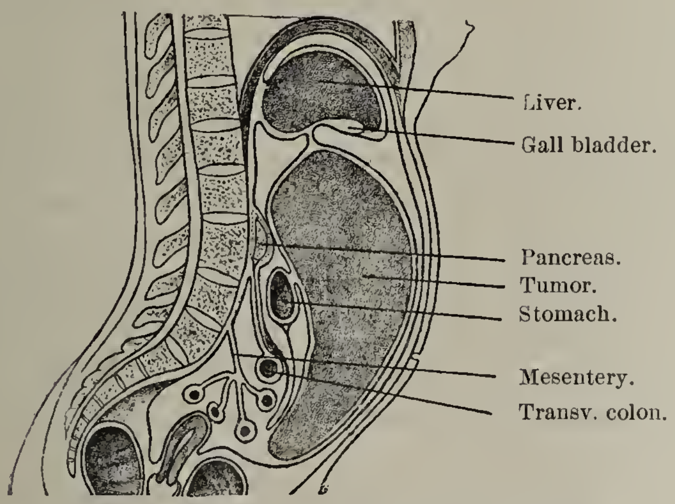

FIG. 54.—v. Erlach's case of tumor of the stomach.

Von Erlach's case [‡] was that of a woman aged thirty-three, who had observed a tumor in the abdomen for two years. In February, 1894, it began to grow very rapidly during a pregnancy followed by an abortion at the fifth month. The probable diagnosis was that of a tumor of the mesentery or intestine. The operation was done November 19, 1894. The tumor was found to be connected with the lesser curvature of the stomach, and had elongated the stomach so that its lesser curvature was thirty centimetres long and the diameter was diminished to about that of the colon. The weight of the tumor was five thousand four hundred grammes, or over eleven pounds. Microscopic examination showed it to be a leiomyoma originating from the muscular coat of the stomach. The patient made a smooth recovery (Fig. 54). Von Erlach refers to a number of similar cases which, however, were not operated on.

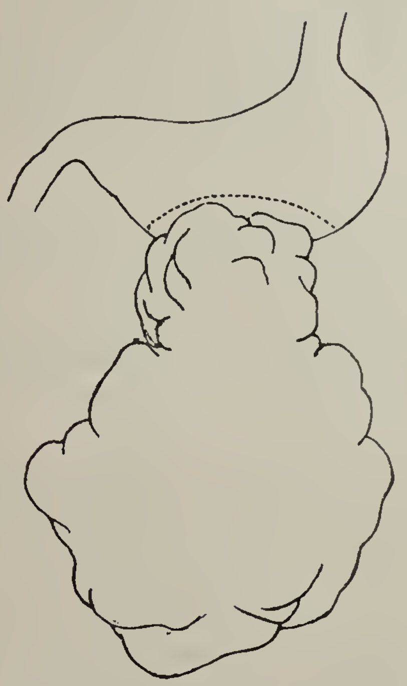

FIG. 55.—von Eiselsberg's case of tumor of the stomach.

Lyman,[*] on December 21, 1895, operated on a man of sixty. He found the stomach filled with a hard mass the size of a newborn child's head. The anterior wall was movable over the tumor. It was attached to the posterior wall two inches and a half from the pylorus over a space of three inches. The stomach was opened by an incision five inches and a half long, and the mass, which measured five inches in diameter, was removed. The tumor proved to be an adeno-carcinoma. No resection of the stomach was done on account of infiltration of the wall. By January 29, 1896, the man was up and about and had made an operative recovery, but the next day a sudden thrombosis of the right leg occurred and he died that evening. No post-mortem examination was allowed.

Von Eiselsberg [†] excised a portion of the stomach wall ten by five centimetres for a fibro-myoma (Fig. 55), which in parts had undergone sarcomatous degeneration, and weighed 5.5 kilogrammes (considerably over eleven pounds). The operation was done March 12, 1896, and at the end of that year the patient was still well and had become pregnant.

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[*] Delivered May 10, 1898.

[†] Kunze. *Arch. f. klin. Chir.*, 1890, xl, p. 756.

[‡] *Wien. klin. Woch.*, 1895, p. 272.

[*] *Annals of Surgery*, 1896, xxiv, p. 310.

[†] *Arch. f. klin. Chir.*, 1897, liv, p. 599.

Herhold * reports the case of a woman of thirty-seven, who had suffered with vomiting for three years. The stomach was moderately dilated. The vomitus contained free hydrochloric acid, and no tumor was perceptible through the abdominal wall. The diagnosis was that of old adhesions from prior peritonitis. On cœliotomy, a tumor the size of a hazelnut was found in the pyloric region. It had produced moderate obstruction and proved to be a myoma. The tumor was excised and a pyloroplasty done. The patient made an excellent recovery.

Körte † reports the case of a woman of thirty-seven, who suffered from what was supposed to be an ulcer of the stomach. Finding the anterior wall thickened, he excised it, and the microscopic examination showed it to be an adeno-carcinoma. She recovered smoothly and had gained twenty pounds in weight.

Af Schultén ‡ reports a case of a large hair ball in the stomach, weighing over two pounds, which was supposed to be a tumor of the kidney, but the operation showed its true position. It was removed through a lumbar incision and without opening the peritonæum, owing to extensive adhesions. Though not a tumor of the stomach wall, I include it here, since, from the operative standpoint, it was equivalent to such a tumor, for a considerable portion of the thinned and discolored wall of the stomach, forming a diverticulum, was removed. She made an excellent recovery.

Of these seven cases of tumor, six recovered, for Lyman's patient made at least an operative recovery, but died from some unknown cause. One case died on the fifteenth day from embolic pneumonia.

The symptoms other than those that are mechanical, as shown by these cases, are strangely insignificant and may easily mislead one. If, as in Herhold's case, the tumor is near the pylorus, symptoms of pyloric obstruction will predominate. If it arises in other parts of the stomach, the tumor may easily be considered a retroperitoneal sarcoma, a tumor of the mesentery, the omentum, or the transverse colon. That they are amenable to surgical treatment, with most encouraging success, indicates that an exploratory cœliotomy should be done at the earliest possible moment in every such obscure case.

Hernia of the Stomach.—In conjunction with tumors of the stomach, I may call attention to hernia of the stomach. Brunner # states that the stomach has never been found in obturator hernia, but in femoral hernia it has been found once and in inguinal hernia six times. The references to each of these cases will be found in his paper. Only once was a diagnosis made before operation. This was founded on the fact that the portion of the stomach in the hernia became distended every time the patient ate or drank. In all the other cases the diagnosis was only established after death. In Brunner's case the stomach was recognized at operation. The patient was a coachman, aged twenty-nine, who had had a hernia for eight years. The hernial sac lay in the scrotum and was found to contain a part of the intestine, the colon, the omentum, and a portion of the greater curvature of the stomach (Fig. 56). It was impossible to reduce it by carrying the finger into the abdominal cavity. The walls of the abdomen were therefore divided several centimetres upward and outward. The patient made an excellent recovery. The operation was done March 18, 1896, and a year later the patient had had no return of his hernia and was in better health than ever.

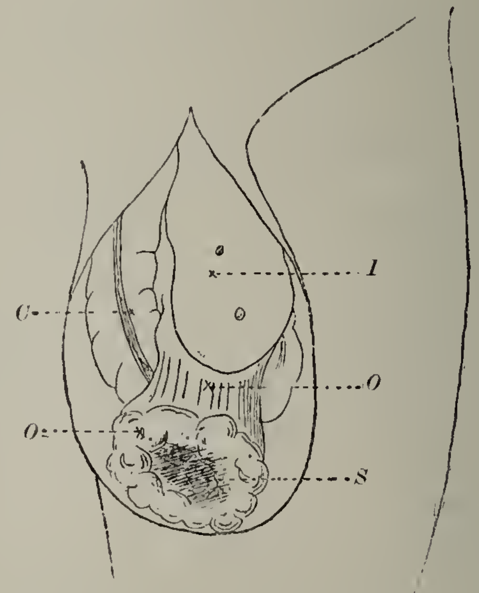

Fig. 56.—Brunner's case of hernia of the stomach. *C*, colon; *I*, small intestine; *O*, *O*, omentum; *S*, stomach.

Gastrectomy.—I. *Partial Gastrectomy.*—Under the head of tumors I have already considered partial gastrectomy and shall have occasion to refer to it again when considering ulcer of the stomach. The only additional instance of partial gastrectomy to which I might allude is a unique one of Kolaczec.* He reports the case of a *diverticulum of the stomach wall* (caused by an ulcer) which was successfully removed. (Cf. af Schultén's case, *supra.*) The origin of the diverticulum, he thinks, was the traction exerted on the stomach through adhesions caused by threatened perforation. No other similar case has been reported in surgical literature, so far as he knows, nor have I found any other.

II. *Total Gastrectomy.*—The newspaper and lay world have been very much excited of late by the remarkable case of Schlatter,† and it is now a matter of popular as well as professional knowledge that the entire stomach can be removed. I need scarcely reproduce the illustrations of this recent case, since they are so familiar to every one. I believe that this is the first case of *complete* gastrectomy on record *anatomically proved* to be such. The epithelial layer of the œsophagus consists of pavement cells, while that of the mucous membrane of the stomach consists of cylindrical epithelium, and Schlatter states that Professor Ribbert established the fact that not only the whole of the stomach but a piece of the œsophagus was removed, as was shown by the character of its epithelium. The operation was done on September 6, 1897. After excision of the stomach the end of the duodenum was closed and an œsophagojejunostomy was done. Krönlein * reports that seven months after the operation the patient was well, and ate like a person in good health. In Schlatter's full report of the case he has entered very thoroughly into the subsequent history of the case, especially as to the digestive function, and he has proved that the digestion of the patient had become practically normal. As the case was one of alveolar carcinoma, the future history will be awaited with great interest.

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* *Deutsche med. Woch.*, 1898, No. 4.

† *Centralbl. f. Chir.*, 1898, No. 10, p. 281.

‡ *Mittheil. a. d. Grenzgebiet. Med. und Chir.*, 1897, ii, p. 289.

# *Centralbl. f. Chir.*, 1897, p. 919.

* *Mittheil. aus d. Grenzgebiet. der Med. und Chir.*, 1896, i, p. 163.

† *Medical Record*, 1897, lii, p. 909, and *Beiträge zur klin. Chir.*, 1897, xix, p. 757.

American surgeons have quickly emulated his example. Summa and Bernays † have reported a similar case in which the patient died thirty-six hours after operation. The newspapers have reported, though I have not seen any professional report of it, a similar case done in Chicago. What the result was in this case I do not know.

Brigham ‡ has just reported another case, in which he anastomosed the duodenum to the œsophagus by a Murphy button. The operation was done February 24, 1898, and seven weeks after the operation the patient, a woman of sixty-six, was well. While no microscopical evidence of absolute removal of the entire stomach is given, the photographs would seem to prove that the case is entitled to be considered a total gastrectomy.

Conner, of Cincinnati, was really, I believe, the first surgeon to do a total gastrectomy on December 7, 1883. The account published in the *Medical News* of November 2, 1884, was not derived, Dr. Conner informs me, from himself personally. He assures me that he did remove the entire stomach, but the patient died on the table. While there is no anatomical proof that this was a complete gastrectomy, as in Schlatter's case, yet the evidence seems to prove that it really was such. The fact that the patient died on the table detracted from the attention which the operation would have received had it been a success.

I confess almost to a disappointment that Schlatter's and Brigham's patients recovered. Physiologically the cases are of importance as showing that a patient can live without a stomach and digest food normally. Surgically I can not think it wise for most surgeons to do such extensive and perilous operations.

While technically these are the only cases of total gastrectomy on record, a number of cases have approached them, and from the surgical, though not from the anatomical point of view, may almost be called total gastrectomies. Schlatter refers to a number of previous cases which approached, though they did not reach, his in the extent of the resection. Thus Krönlein excised a portion of the stomach measuring thirteen centimetres on the lesser and twenty-two centimetres on the greater curvature, with success.

Langenbuch * has reported two cases with end-to-end anastomosis. In one, seven eighths of the stomach were resected successfully; in the other, a fatal result followed.

Hartmann † reports a case of removal of three fourths of the stomach, the pylorus being anastomosed almost directly to the cardia, with recovery.

Porges ‡ has reported a case of carcinoma of the greater curvature, which extended from the pylorus to within three finger-breadths of the cardia and encircled the stomach, so that the greater portion was converted into a rigid tube. The diseased portion and half an inch of healthy portion at either end were excised and the duodenum united with the cardiac portion, a strip an inch and a quarter wide. The cancer had not recurred after six years. This with Schlatter's, Brigham's, and the following case, are the most noteworthy thus far reported.

Schuchardt,# in 1895, removed all of the stomach, excepting three finger-breadths of the cardiac extremity, with recovery. The remaining portion gradually dilated until at the patient's death, three years later, it held five hundred cubic centimetres, and the patient, who at first only took small portions of food at a time, was finally able to eat an ordinary meal. Her final history is reported by Schuchardt in the *Semaine médicale* for April 20, 1898. After two years of healthy life, she died in September, 1897, three years after the operation, of a cancerous pleurisy. The necropsy showed that there was no recurrence in the stomach and that its capacity, due to distention of the small portion of the cardia and of the duodenum, had become normal.

Baldy,|| in the autumn of 1893, also removed all of the stomach, except a small piece at the cardiac end, and united the two ends. The patient died after three hours.

Of these twelve cases, five of complete and seven of very extensive and almost complete gastrectomy, six recovered and one of them lived for three years, another for six years. Five died and the result in one is unknown, but was probably fatal. The mortality, therefore, is much less than one would expect. But it is still so great that I can not but conclude that abstention from such

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* *Semaine méd.*, April 20, 1898, p. 175.

† *Journal of the American Medical Association*, February 12, 1898.

‡ *Boston Medical and Surgical Journal*, May 5, 1898, p. 415.

* *Deutsche med. Woch.*, 1894, p. 968.

† *Centralbl. f. Chir.*, 1898, No. 7, p. 204.

‡ *Wien. med. Woch.*, August 29, 1896.

# Schlatter, p. 758.

‖ *Journal of the American Medical Association*, March 5, 1898, p. 523.

extensive operations is the wiser course for the average surgeon. In the hands of surgeons of exceptional skill and wide experience in abdominal surgery the operation will be advisable in rare and unusually favorable cases. At all events, it is of great interest to know that physiologically the stomach, as I may say is the case with almost all of our internal organs, is a luxury rather than a necessity.

Gastric Ulcer.—The surgical treatment of gastric ulcer is of very recent origin. The first operation for *non-perforating* ulcer was done by Czerny, in 1882. The first recognized *perforating* ulcer which was sutured dates only as far back as 1880, and the first successful case did not occur until 1892. In 1896 Weir and Foote[*] collected seventy-eight cases in these sixteen years. One of my assistants, Dr. M. B. Tinker, has collected, in addition to those tabulated by Weir and Foote, seventy-eight further cases reported in the two years since their paper was published. It will be seen, therefore, that the surgery of gastric ulcer has rapidly gained in favor. Not only is this so, but the mortality of cœliotomy for this purpose has been greatly diminished (*vide infra*), partly by reason of the fact that such cases are operated on at an earlier time, when the prospect of recovery is relatively good, and partly from the fact that we are gradually discovering the mistakes of the earlier operators, and so improving our technic. As this is so new a topic, I shall consider it in some little detail.

The frequency of gastric ulcer is startling. Ewald[†] estimates it at between four and five per cent. of the entire population. Still more startling is the statement of v. Leube,[‡] who estimated that in ten years he had treated much more than a thousand cases. This would make an average of one case about every third day. In addition to this, the very large numbers published in the statistics of European surgeons of the various operations for cancer, stenosis, and other surgical affections of the stomach, as shown in the preceding pages, indicate a far greater frequency of similar troubles in Europe than occurs in this country. American surgeons have no such statistical results to publish. I doubt whether all the surgeons of Philadelphia, a city of 1,300,000 people, have done as many pylorectomies, pyloroplastics, gastro-enterostomies, etc., as a single surgeon, Mikulicz, in Breslau, a city of 335,000, or Czerny, in Heidelberg, a city of less than 30,000 inhabitants.

This may be due partly to geographical causes and partly to the personal celebrity of individual surgeons, but I believe that it is chiefly due to the existence in Europe of a peasant class entirely unknown in America. Their wretched food, unsanitary housing, poor clothing, and the unstinted use of beer—in a word, the unfavorable environment of this large proportion of the European population, it seems to me, must be the cause of the frequency of such gastric surgical disorders.

The mortality, as well as the frequency, of gastric ulcer makes the subject one of great importance. It has been estimated, according to Ewald, at anywhere from 1.23 per cent. to thirteen per cent. Debove and Rémond[*] estimate the mortality at fifty per cent. Welch[†] estimates it at fifteen per cent., of which 6.5 per cent. are due to perforation and from three to five per cent. to hæmorrhage. With such varying figures it is impossible to make a more exact statement perhaps than that a very large number, amounting probably on the average to twenty-five per cent. of the cases, die.

The situation of the ulcer can be more accurately estimated. According to Welch, the following is the number and the proportion in seven hundred and ninety-three cases:

Lesser curvature	288	(36.3 per cent.).
Posterior wall	235	(29.6 ").
Pylorus	95	(12 ").
Anterior wall	69	(8.7 ").
Cardia	50	(6.3 ").
Fundus	29	(3.7 ").
Greater curvature	27	(3.4 ").

Of 1,348 cases collected by Van Valzah and Nisbet,[‡] 923 were situated on the anterior wall, as against 425 in all other parts of the stomach. While the situation of the ulcer is of great importance, the situation of the perforation, which differs greatly in its percentage from that of the position of the ulcer, is to surgeons of still greater moment. Greiss and Cohn[#] estimated that only two per cent. of those on the posterior wall perforated, but of those on the anterior wall eighty-five per cent. perforated, and of those near the cardia forty per cent. perforated. Brinton estimates that in one hundred ulcers in each of the following situations, the numbers which perforated are, on the posterior surface, 2; in the pyloric sac, 10; in the middle of the organ, 13; in the lesser curvature, 18; on the anterior and posterior surfaces at once, 28; at the cardiac extremity, 40; and on the anterior surface, 85. This frequency of perforation on the anterior wall and infrequency on the posterior is due probably to the fact that, owing to the respiratory and peristaltic motion of the stomach and the abdominal wall, adhesions do not form readily anteriorly, whereas posteriorly they occur very often.

Not only are perforating ulcers very infrequent on the posterior wall, but when they do perforate there they are apt to result in localized subphrenic abscesses rather than general peritonitis. This form of abscess it is impossible for me to consider. It will be found fully treated in Maydl's classical work on the subject.

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[*] *Med. News*, April 25, 1896, p. 449.

[†] *Klinik d. Verdauungskrank.*, 1893, p. 382.

[‡] *Arch. f. klin. Chir.*, 1897, lv, p. 69.

[*] Einhorn. Diseases of the Stomach. *Twentieth Century Practice*, viii, p. 232.

[†] Pepper's *System of Medicine*, ii, p. 502.

[‡] *Diseases of the Stomach*, 1898, p. 486.

[#] *Dissert. aus d. path. Inst. in Kiel.*

Of thirty-five cases arising from the stomach, he found thirty-two had their origin in ulcers and three in cancer of the stomach.

The probable location of the perforation is of great practical interest to the surgeon, for when he has opened the abdomen in search of a perforation he should conduct his search not haphazard, but methodically, and in accordance with the above indications—*i. e.*, beginning, first, with the anterior wall, next the cardia, then the lesser curvature to the pylorus, and he should end his search with the posterior wall. For want of such a methodical search, in the first successful case reported by Kriege, the operator needlessly lost a half hour, and the operation was prolonged to two hours and a half. Fortunately, the patient recovered.

It must not be forgotten also that there is not uncommonly more than one gastric ulcer. Brinton estimates that two or more ulcers exist in one fifth of all the cases, and just as in typhoid ulcers, when one has perforated, there may be others which have perforated or are on the verge of perforating. We should, therefore, make a systematic search for such an actual or threatened perforation, and remedy or avert it by suitable treatment.

Early interference in gastric ulcer is justified also by the undoubted fact that in a number of cases chronic ulcer of the stomach undergoes cancerous degeneration, just as in other parts of the body chronic ulcers occasionally undergo such malignant change, and benign tumors very frequently become malignant. Hauser[*] confirmed this malignant transformation microscopically. In 1891, Kollman[†] collected fourteen cases, and, in 1895, Boas[‡] added eight more. Hauser estimates that carcinoma is ingrafted on ulcer in five to six per cent. of the cases. Doyen,[#] I think, overestimates this frequency when he says that gastric cancer, "almost without exception," arises from ulcer or chronic gastritis. The latter phrase, however, is capable of very wide interpretation. The case of Dr. K., already narrated under gastrotomy, is undoubtedly an instance of this cancerous transformation.

I have not time to enter into a discussion of the diagnosis; in fact, this is hardly necessary. The difficulty, and often the impossibility, of absolutely diagnosticating the *existence of an ulcer*, and especially of differentiating ulcer from cancer, are admitted by all writers. In view of the vital importance of an early exact diagnosis, and the slight danger of exploratory cœliotomy at the present day, I must repeat what I have already stated under gastrotomy, that in suitable cases, when the diagnosis is in doubt, in my opinion, it is not only proper, but it is the *highest duty of the surgeon* to make an exploratory cœliotomy in order to determine the correct diagnosis and institute the proper treatment. Even after cœliotomy an ulcer with thickened edges has often been mistaken for a cancer.[*]

The diagnosis of *perforation*, however, is of the utmost importance, and, fortunately, can usually be made with great certainty. In a few cases it has been doubtful whether the case was not one of appendicitis or of intestinal perforation, especially of a duodenal ulcer, or of a strangulated hernia, but, as in either case the surgical treatment is equally clear—namely, immediate cœliotomy—the doubt is of less moment than would be supposed.

Often the perforation follows very slight exertion. In the appended table, for example, one perforated from the slight exertion of going downstairs (No. 3), another from turning in bed (No. 5), another while dressing (No. 6), others while walking (Nos. 36 and 66), stooping (No. 51), and bending over and sweeping the stairs (No. 67), or lifting the arms while seated (No. 53). Most frequently it occurs without any apparent cause. The first and most prominent sign is pain, which is usually spontaneous, intense, and localized in the left upper quadrant of the abdomen. This is so severe as to be attended with collapse, and soon afterward by signs of peritonitis. The abdomen, which at first was rigid and rather sunken, becomes distended by meteorism. Intestinal peristalsis comes to a standstill, and vomiting frequently ceases. One would suppose, as the stomach always contains gas, that this would escape into the general abdominal cavity, and invariably cause diminution or disappearance of the hepatic dullness. On the contrary, in several instances the liver dullness did not disappear, and sometimes was not even lessened. In view of the urgency of the case, if there is any doubt, instant exploratory cœliotomy should clear it up.

I. THE TREATMENT OF NON-PERFORATING ULCER.—The treatment in the majority of cases of gastric ulcer should be medical. Von Leube states that in the five hundred and fifty-six cases which are available for his statistics, only twelve, or 2.2 per cent., died, six from hæmorrhage and the other six from perforation; 74.1 per cent. healed without trouble; 21.9 per cent. were improved. To the small but all-important number of non-perforating cases which do not yield to medical means, three surgical methods of treatment are open: The first two of these are pyloroplasty and gastro-enterostomy. The object of both is to put the ulcer as far as possible at rest. Morison not only did pyloroplasty, but in two cases scrubbed the ulcer with gauze, and then drew the mucous membrane together over the ulcer by catgut, as also did Mikulicz.[†] As the mortality of these two operations is not very different, as has been shown, and as gastro-enterostomy perhaps best attains the object in view—namely, the speedy emptying of the contents of the stomach—this is on the whole the best plan. Yet pyloroplasty in Mikulicz's hands has given admirable results.

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[*] *Das chronische Magengeschwür*, Leipzig, 1883.

[†] *Berl. klin. Woch.*, 1891, Nos. 5 and 6.

[‡] *Diag. u. Therapie d. Magenkrankh.*, Leipzig, 1885.

[#] *Traité chir. des affect. de l'estomac*, p. 3.

[*] Morison, *Lancet*, 1898, i, p. 361; Maydl, *Wien. klin. Woch.*, 1891, iv, p. 326; Körte, *Centralbl. f. Chir.*, 1898, No. 10, p. 281; my own case (Mrs. B.) below, and many others. See also cases under Pylorectomy.

[†] See his admirable paper, *Arch. f. klin. Chir.*, 1897, lv, p. 84.

A third method of treatment, which has been very rarely resorted to, is excision of the ulcer. This has been done in a number of instances by pylorectomy, but I refer more particularly to such cases of resection of the wall of the stomach as are properly termed partial gastrectomies. This was first done by Czerny,[*] who, on December 13, 1882, excised the ulcer, with recovery. In 1888, Cordua [†] had an equally successful case. Billroth [‡] and Hofmeister,[#] when the stomach tore during an attempt to free it from adhesions, immediately resected the ulcers, with recovery. These two cases have already been referred to under gastrolysis. Drobrick [‖] reports a similar successful case following a tear in which the resulting gap in the stomach wall was "as large as the hand." Schuchardt [△] also had a successful result, but the patient died two weeks after the operation from perforation of a second ulcer, which he did not find at the operation, though the entire hand was introduced into the stomach. Other cases of excision of ulcer have been reported by Brenner,[◊] Lange,[↧] Lindner,[↕] Mikulicz,[⇞] and others. Sometimes pyloroplasty or gastro-enterostomy may be combined with excision with advantage.

As long ago as 1892 I did one of the earliest similar operations with an equally happy result. At the time I was under the impression that it was a localized carcinoma, but a section of the growth afterward, and the fact that the patient is in perfect health over six years after the operation, shows that it was an ulcer of the stomach. A *résumé* of the case is as follows:

Mrs. B. was first seen in consultation with her son, a well-known pathologist, on February 20, 1892. She was sixty-one years of age, and had an excellent family and personal history, with the exception of an attack of pneumonia in 1874. Her attacks began some time before 1886 and very insidiously. At first they were apparently slight attacks of indigestion, with sick headache, but they gradually grew more severe and more frequent, so that by 1886 they recurred about once in a week or two. By 1890 the attacks frequently recurred every other day, and instead of being in comfort between the attacks, she was in great discomfort. About the same time she had slight vomiting of blood. In 1886 her weight was a hundred and seventy-six pounds. Up to 1890 she had lost but little flesh, but after 1890 the loss of flesh was very marked and quite rapid, so that when I first saw her her weight was only eighty-eight pounds. The vomitus became exceedingly irritating. Repeated tests showed the absence of HCl and the presence of lactic acid. Unfortunately, the notes made at that time were lost, and the quantitative estimate can not be given. By 1890 her pain had become so severe and constant that she only slept for fifteen or twenty minutes at a time, and at times she seemed to be dazed. Dyspnœa became a very marked symptom, so that even in midwinter she slept with the windows open. There were irregular attacks of fever, when the temperature ran up to 101°, subsiding, however, to the normal within a day or two. Hunger became a most unbearable symptom. She had been obliged to drop one article of food after another, in consequence of the discomfort caused by them, until she might be said literally to be starving to death. Constipation also was a most obstinate symptom, so that even a half ounce of the fluid extract of cascara produced little effect. The urine was repeatedly examined and found normal.

When I first saw her I found an exceptionally wasted woman, whose anterior abdominal wall was almost absolutely in contact with the spine. A small tumor could be felt in the epigastrium, a little to the left of the middle line. It was not very painful and slipped away from the fingers very easily. The diagnosis lay between cancer and a possible non-malignant gastric tumor due to ulcer. In favor of a slowly progressing cancer were the absence of HCl and the presence of lactic acid, the great wasting, the tumor, and the pain; on the other hand, the long continuance of the disease, and its situation distinctly to the left of the pylorus, and the absence of adhesions, seemed rather in favor of ulcer than of cancer.

On February 25, 1892, I operated by a median incision. As soon as the abdomen was opened the stomach presented and showed a hard, dense mass, a little over three centimetres in diameter, five centimetres to the left of the pylorus and on the lesser curvature. The wall of the stomach seemed to be thickened throughout, but in the neighborhood of the tumor the infiltration was rather sharply limited. To ascertain exactly its character, I decided to make a semicircular incision around half the tumor, evert it, and determine if possible its character by an examination from the inside. On doing this I found a craterlike ulcer, with markedly thickened edges, the ulcer itself being fifteen millimetres in diameter in the centre. I deemed it a carcinoma. As it was so localized, however, I determined to excise it. Accordingly I made my semicircular incision into a complete circle, keeping about two centimetres away from the margin of the tumor. As the tumor extended across the lesser omentum I was obliged to excise part of both the anterior and the posterior wall, involving a considerable number of vessels, which were tied as cut. I estimated the total loss of blood at not over four ounces. The resulting opening in the stomach was exceedingly large, about seven centimetres in diameter (two inches and three quarters). The walls of the stomach were invaginated with a good deal of difficulty by two rows of sutures. Especial care was given to the mesenteric attachment, where the difficulty of exact closure was very great. The liver, the duodenum, and other neighboring viscera were examined, but no cancerous infiltration was found. The operation was not followed by very marked shock. For forty-eight hours the patient was nourished by the rectum, and on the third day small doses of milk were ordered every hour. She made a somewhat slow convalescence, vomiting a good deal at first, but finally entirely recovered. A most careful examination of the tumor by her son and others showed that it was not a cancer, as was believed at the time of operation, but an ulcer with greatly thickened edges.

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[*] Maurer. *Arch. f. klin. Chir.*, xxx, p. 1.

[†] *Rev. des sci. méd.*, xxxiv, p. 259.

[‡] *Arch. f. klin. Chir.*, 1889, xxxix, p. 805.

[#] *Beiträge z. klin. Chir.*, 1896, xv, p. 356.

[‖] *Centralbl. f. Chir.*, 1898, p. 393.

[△] *Verhandl. d. deutsch. Gesellsch. f. Chir.*, 1894, xxiii, p. 158.

[◊] *Wien. klin. Woch.*, 1896, ix, p. 1117.

[↧] *New York Medical Journal*, May 21, 1892, p. 584.

[↕] *Loc. cit.*, p. 96.

[⇞] *Med. Press. and Circ.*, March 30, 1898, p. 334.

Later, under date of July 16th, five months after the operation, she stated that her weight was a hundred and thirty pounds, that she was entirely free from pain, and while she had to be careful as to her diet, she was able to eat almost everything. At present, April, 1898, her weight is a hundred and fifty pounds and she is in excellent health.

Practically, therefore, it will be seen that almost every case of partial gastrectomy for non-perforating ulcer has been followed by success. This fact, it seems to me, should determine us, in cases of gastric ulcer which do not recover within a reasonable time by medical means, to do a partial gastrectomy, especially in view of the dangers, first, of malnutrition from the presence of the ulcer and consequent constant vomiting; secondly, of the impairment of health by the constant pain; thirdly, of the great possibility of serious, repeated, and sometimes fatal hæmorrhage; and, fourthly, of the danger of malignant degeneration of the ulcer. I would by no means recommend indiscriminate cœliotomy and partial gastrectomy, but that it should be performed much more frequently than has thus far been done. "The danger to life from gastric ulcer," says Mikulicz, "is at least not less, but probably far greater than the danger of a complete modern operation." When the ulcer is once excised, a gastrorrhaphy closes the opening, and all of our experience in modern gastric surgery shows that suture of the stomach is, in the vast majority of cases, a safe operation.

Operation for Hæmorrhage from Ulcer of the Stomach.—About five per cent. of the cases of ulcer of the stomach die from hæmorrhage. This occurs in two forms: first, a furious hæmorrhage, destroying life by the first or second bleeding; and, secondly, repeated, frequently recurring small or moderate hæmorrhages, which gradually drain the patient's strength and finally kill her. I vividly remember how anxiously I debated the question of operation when the first furious hæmorrhages occurred in the case of Miss K. (see *gastrotomy*), and how clearly the later gastrotomy, when it was done, showed that had I operated for the hæmorrhage I could not have found its source, and she would undoubtedly have succumbed at once.

Mikulicz [*] says that there are only two cases [†] in which the vessels have been tied. Mikulicz excised the ulcer, tied the vessel, and sutured the opening. In three other cases he has also opened the stomach for hæmorrhage from an ulcer on the posterior wall, with a fatal result in all. Gannett [‡] did a cœliotomy for hæmorrhage, but found such adhesions that nothing could be done. Hartmann [*] has collected in all twelve operations for hæmorrhage, with eight deaths. His conclusion is that, as the hæmorrhage can usually be stopped by rest, absolute diet, and bandages to the four extremities, to which Heydenreich [†] properly would add a saline transfusion, "at the present time the indications for operation in hæmatemesis with acute anæmia rest in suspense." Dieulafoy [‡] strongly urges immediate operation in every case of hæmatemesis of half a litre or more of blood, especially if it recurs within twenty-four hours, and he reports a case of hæmorrhage from a superficially ulcerated patch in which he gathered up into a fold the ulcerated mucous membrane and ligated it, with recovery. To my mind the conclusion of Mikulicz and Hartmann to abstain from intervention is the better warranted course.

Not only may this be employed as a remedial measure, but Cahn, of Strasburg, and Doyen simultaneously proposed that gastro-enterostomy should be done to *prevent* hæmorrhage, and both of their patients recovered. If, therefore, an ulcer, even if unaccompanied as yet by hæmorrhage, does not get well by medical means within a reasonable time, I would urge surgical intervention.

For the cases of repeated hæmorrhage, which will almost surely finally destroy life, surgery offers unquestionably the best relief. In such cases we can select a favorable time in the interval between attacks, when the patient's strength is at least fair, and may be good. In these cases, with Mikulicz and Heydenreich I would urge either pyloroplasty or gastro-enterostomy. Which should be done will depend upon the conditions found at operation.

II. The Treatment of Perforated Gastric Ulcer.—Occasionally the ulcer penetrates into the pleura or the pericardium. When it perforates into the pleura death does not necessarily follow immediately. Usually perforation into the pericardium is almost immediately fatal, as in Fenwick's case.[#] In Moizard's case [||] a portion of the diaphragm between the pericardium and the stomach, twenty-five centimetres in diameter, had entirely disappeared. Still more absolutely fatal is a perforation into the left ventricle, which is one of the very rarest results. Finny [△] narrates such a case in which death occurred from hæmorrhage from the heart into the stomach. The opening between the stomach and the ventricle was direct, without any intervening sac. Finny refers to three cases recorded by Chiari, Brenner, and Oser. In the last two death did not occur until four and three days and a half after the perforation took place. Pick[*] has collected twenty-eight cases of ulcer penetrating into the thorax. Of these, sixteen penetrated into the pleura or lung, six into the pericardium and four into the heart, one into the mediastinum, and one resulted in a fistula through the diaphragm and ribs.

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[*] *Arch. f. klin. Chir.*, 1897, lv, pp. 84, 111.

[†] Roux. *Congr. français de chir.*, 1893, and his own.

[‡] *Boston Medical and Surgical Journal*, January 10, 1889.

[*] *Semaine méd.*, 1898, Nos. 7. and 8.

[†] *Ibid.*, February 2, 1898, p. 493.

[‡] *Lancet*, 1898, i, p. 335.

[#] *Ibid.*, 1897, ii, p. 388.

[||] *Bull. et mém. de la Soc. des hôp.*, 1885, 3me série, ii, p. 180.

[△] *British Medical Journal*, 1886, i, p. 1102.

In such cases as these treatment can be of little if any avail.

Perforation of the posterior wall, as already stated, is apt to result in local abscesses, especially subphrenic.

By far the most common perforation is into the peritoneal cavity, when, if a cœliotomy is not immediately done, the chances of life are very slight. In view of the rapid progress of modern abdominal surgery it is surprising that we did not long ago recognize the possibilities which surgery held out in this direction; for perforating ulcer in typhoid fever was operated on by Mikulicz in 1884, and the first operation for perforating gastric ulcer had been done by him in 1880. But until 1892, only six years ago, such operations were very rare.

The treatment in perforation is very clear and should be instantly instituted. First, all food should be stopped. Fortunately the anorexia and collapse make the ingestion of food generally impossible. If a meal has been taken shortly before the perforation and the case has the advantages of a hospital, it would be well, while the preparations are being made for operation, to empty the stomach of food, not by lavage, but by the stomach pump. The mortality of those cases operated on fasting, and those in which food had been taken shortly before the perforation, differs much; the fasting cases having far better chance of recovery than those in which the partly digested food in the stomach escapes into the belly cavity. Thus Barker[†] found in his seven cases that of the four operated on for perforation occurring while fasting, three recovered; while of the three operated upon for perforation shortly after a meal, every one died. But in my own table of eleven cases of perforation within four hours after a meal, five died and six recovered.

I would join with Mikulicz, Barker, and Thompson[‡] in urging that operation should not be delayed in the hope that shock will pass off, for in such cases shock will only pass into a fatal peritonitis; moreover, the results of immediate operation, as shown below, are so much more favorable than those in which the operation has been delayed as to warrant our proceeding in spite of shock.

The incision may be either in the middle line above the umbilicus, as has been adopted in the majority of cases, or, as in some cases, a vertical incision to the left of the middle line. Not seldom it has been found needful after making a median incision to make a second at a right angle to it toward the left. When the diagnosis is absolutely certain, I think that an incision parallel with the border of the ribs, or a curved flap, with its base toward the border of the ribs, would be preferable to the vertical incision. A very considerable proportion of gastric ulcers perforate near the cardia and a left oblique incision or flap will give much better access to the cardia than the median incision. In one of Mr. Barker's[*] interesting and instructive cases the woman was subject to a hernia and the case was supposed to be either a reduction of the hernia *en masse* or an appendicitis, as she suffered with steady pain after reduction of the hernia and there had been no prior symptoms of gastric trouble. The incision for appendicitis was made and the real trouble was only discovered when a sponge was thrust upward toward the liver, resulting in a gush of gas and fluid. A second incision was then made in the median line, which gave access to the ulcer, and, though the first part of the operation had already lasted an hour, the patient made an excellent recovery.

The stomach having been exposed, a methodical search for the ulcer is immediately begun. Usually it will be quickly found on the anterior wall. If not found there, the cardia should next be examined, then the pylorus, and finally the posterior wall.

The area of increasing congestion or the visible escape of gastric contents will usually aid in the search. If great difficulty is experienced in finding the ulcer, the injection of air through a stomach-tube may reveal its site by the bubbles of air.

It is not best, as a rule, to waste time in washing out the stomach, unless evidently full of food. Usually the opening of the ulcer is too small, and the procedure is not devoid of danger unless carefully done.

Bradford[†] has noted the danger of "drowning" the patient, if the reservoir for water is held too high, by forcing water through the œsophagus into the larynx, whence it easily passes into the lungs.

The method of dealing with the perforation is various. In some cases its edges have been pared, and in others—and this seems to me the better course in gastric ulcer, as it certainly is in perforating ulcer in typhoid—the edges of the ulcer have been merely inverted and the stomach wall sutured by one or two rows of Lembert sutures.

Great care must be taken to see that the entire ulcer is inverted. Pearce Gould[‡] refers to a case of Pepper's in which, following an operation for perforation when convalescence had well begun, a second perforation took place at the posterior part of the ulcer. The necropsy showed that not enough of the stomach wall had been inverted. A careful search should then be made for any possible perforation or threatened perforation by a second ulcer. Thus Selby * lost his patient by the perforation of a second ulcer of the posterior wall forty-two hours after operation. If perforation is threatened, the thinned stomach wall should be inverted and gastrorrhaphy done by two rows of Lembert sutures.

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[*] *Zeitsch. f. klin. Med.*, 1894, xxvi, p. 452.

[†] *Lancet*, 1896, ii, p. 1583.

[‡] *Ibid.*, p. 11.

[*] *Lancet*, 1896, ii, p. 1583. Case II. (No. 5 in my table.)

[†] *Trans. of the Am. Surg. Assoc.*, 1892, x, p. 221.

[‡] *British Medical Journal*, 1894, ii, p. 859.

If the ulcer exists on the posterior wall, it may be perceptible by the finger through the anterior wall, but not be accessible from behind by reason of adhesions to neighboring viscera. A case of this kind is reported by Küster,† who immediately incised the anterior wall and found the ulcer. This he treated with the thermocautery and then did a gastro-enterostomy. Such a course is to be commended.

Sometimes it is impossible to invert the edges and apply the Lembert sutures by reason of the thickness of the walls of the stomach, of surrounding adhesions, or of the size of the opening. Three courses are then open to the surgeon. In Cases III and XXIX the mucous membrane and then the edges of the ulcer were simply brought into contact by sutures, as though it were a cutaneous wound, and both patients made an excellent recovery. Following Senn's plan, I should recommend in such a case of possibly insecure suture the application of an omental graft as an additional safeguard. Secondly, when the edges could not be approximated, the opening has been closed by sewing over it an omental graft (Case XXII), or by stopping the opening with a bite of omentum like a cork (Case XVI). In the former case Braun ‡ considered the propriety of closing the opening by sewing a coil of intestine to the stomach. If the original experimenters in gastric surgery had doubts as to whether, after suture of the stomach, the gastric juice would not act unfavorably on the line of suture and hinder union, how much more startling to them would have appeared the proposal to plug an opening in the gastric wall by a bit of omentum or a coil of intestine!

If neither of these procedures is possible, then, thirdly, the intestines may be walled off by iodoform gauze to protect them from the gastric juices, a tube introduced down to the open ulcer, and the fistula, which of course will result, will close spontaneously, or if not, it may be closed by a later plastic operation. Of three cases thus treated (Nos. 35, 40, and 63), two recovered.

When the gastric portion of the operation is terminated, the cleansing of the peritonæum becomes the next point of anxiety, as it is of the utmost importance that it shall be thoroughly and absolutely clean. "The key of the position," says Pearce Gould, "lies in the perfect cleansing of the peritonæum." Apart from exhaustion, shock, or an already fully established peritonitis, death has more frequently followed from a failure to cleanse the peritoneal cavity than from any other one cause, or perhaps from all other causes put together. Barker ascribes death in one of his cases to neglect to cleanse the space between the liver and the diaphragm as thoroughly as ought to have been done, with a resulting fatal subphrenic abscess. The peritoneal cavity, therefore, should be well flushed with warm sterile salt solution and any suspicious spots wiped clean. The two most important points, according to Mikulicz, are, first, prompt operation, and, secondly, thorough cleansing of the peritoneal cavity. The abdominal opening is then closed as usual. In most cases drainage will be required; often not only at the site of operation, but also from the pelvis, by a suprapubic opening, or, in women, possibly through the vagina.

(*To be concluded.*)

SOME CRITICAL AND DESULTORY REMARKS

ON RECENT LARYNGOLOGICAL AND RHINOLOGICAL LITERATURE.

By JONATHAN WRIGHT, M. D.

(*Seventh Paper.*)

A NUMBER of papers have recently appeared in various journals embodying reports of remarkably successful results obtained in operations for laryngeal cancer. These papers certainly signalize the most gratifying advance made for many years in any field of laryngeal surgery except that produced by the advent of intubation. This advance consists not in the institution of any new operation, but in the improvement of operative technique and diagnostic acumen. Previous to the last three or four years the results reported of operations for laryngeal cancer had been of such a nature as to add little stimulus to the selection of any cases for radical operation. Most of this advance has been noted in the extralaryngeal operations, and although B. Fraenkel as long ago as 1889 published a brochure (*Der Kehlkopfkrebs, seine Diagnose und Behandlung*) on laryngeal cancer in which he advocated intralaryngeal operations, his late paper, in the *Archiv für Laryngologie*, vi, 2, comes as something of a shock to our recently formed opinions as to the preference in all cases for an external operation. He reports nine cases. In one, an old man, the patient is alive and well after a lapse of thirteen years, and in one after ten, nine, six, and a year and a half, making five altogether who may be considered cured. These results were obtained by intralaryngeal operations in selected cases. In the first case there was extension to the cervical glands, which necessitated several extensive external operations. Fraenkel urges the necessity of keeping these cases under careful observation, so that if intralaryngeal methods are unsuccessful, or if, being successful, fear of recurrence is entertained, the time will not be allowed to pass in which a radical external operation is justifiable. After careful consideration of Fraenkel's paper and a retrospect of his own experience with the disease, the average laryngologist can not but regard the results attained by Fraenkel as an indication of that operator's great manipulative dexterity and of his skill in correctly estimating the extent of the involvement of the tissues rather than as a mark which it is wise for every operator to attempt to attain.

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* *Lancet*, 1895, ii, p. 1348.

† *Verhandl. d. deutschen Gesellsch. f. Chir.*, 1894, xxiii, p. 431.

‡ *Centralbl. f. Chir.*, 1897, p. 739.

We had hardly time to be impressed by this imposing and brilliant array of cases cured by intralaryngeal methods when in the next issue of the *Archiv* (Band vi, Heft 3) Semon published his results with the external operations for laryngeal cancer. Many of the cases reported were included in a paper which he published in the *Lancet* in 1894. He says: "From March 3, 1886, to July 21, 1896, sixteen external radical operations for real or supposed malignant neoplasms of the larynx have been undertaken in my private practice. Four of these were performed by other operators. Twelve of these cases were operated upon by myself. Of these last-named twelve cases one was a unilateral extirpation of the larynx, one was a subhyoid laryngotomy, three were thyreotomies with the removal of small portions of cartilage, and seven were thyreotomies with simple removal of soft parts. In one case (of the sixteen) the microscopical diagnosis rendered it doubtful whether it was a fibrosarcoma or a '*continuirliches*' soft fibroma analogous to the fibroma molluscum of the external skin, although the clinical course argued in favor of the former assumption.

"I succeeded in permanently curing one case of epithelioma of the larynx by intralaryngeal operation, which was only undertaken for the purpose of removing for microscopic examination a portion of the neoplasm which projected beyond the edge of the vocal cord. I regard this success only as a fortunate accident, and therefore I do not include it among my radically operated cases. Of the remaining fourteen cases one was a villous carcinoma, one a cavernous fibrosarcoma, and the other twelve were epitheliomata.

"Of these sixteen cases five resulted fatally: The first case—unilateral extirpation of the larynx (operator, Sir William MacCormac)—death on the third day from bilateral septic pneumonia; the second case—thyreotomy (operator, Mr. Butlin)—death on the second day from septic pneumonia; the third case—thyreotomy (operator, Dr. Semon)—death from ether (per rectum) twenty-four hours after operation; the fourth case—subhyoid pharyngotomy (operator, Dr. Semon)—death on the fourth day from sepsis (?); the fifth case—thyreotomy (operator, Dr. Semon, man, aged seventy-two years)—death on the sixth day; bronchitis and exhaustion (sepsis?).

"In the face of the fact that out of thirteen thyreotomies for real or supposed laryngeal neoplasms three ended fatally as a result of the operation itself, I naturally do not regard this operation as entirely free from danger, but I believe that its dangers are almost always avoidable ones.

"Of the eleven remaining patients who recovered from the operation, it is doubtful in one case whether there was a recurrence or not, while in another a thyreotomy was done for a benign papilloma. Of the nine cases of *malignant* disease which survived the operation, all have remained free of recurrence, the periods of observation being six years and nine months, five years and nine months, six years and two months, five years and one month, three years and three months, two years and two months, one year and five months, one year and two months, and one year."

These results obtained by operations on fifteen patients with malignant disease certainly form a conclusive answer to many criticisms of the external operation, but we must remember the premises. Out of more than one hundred cases observed by one of the most acute diagnosticians of laryngeal disease in the world fifteen cases are selected for operation. The personal equation can not be too carefully considered when we discuss the question, either as to the diagnostician or as to the operator. When to operate and how to operate still remain the vital questions, and in the light of the answers to these we must judge of the statistics of operations for laryngeal cancer. This applies equally well to endolaryngeal methods as advocated and practised by Fraenkel, who does not, however, by any means reject the external operation in cases which he deems unsuitable for the internal one.

Following close upon Fraenkel's and Semon's papers comes that of Gluck in the *Berliner klin. Woch.* (Nos. 43, 44, and 45) upon the surgical treatment of malignant laryngeal growths. Gluck and Semon both declare that in no other region of the body should we be so encouraged to expect freedom from recurrence after operation. As we have seen, the practical results support the theoretical reasoning, which is based on the fact that the laryngeal growths are inclosed by a cartilaginous box through whose walls there are no demonstrable lymphatic channels for metastasis. Gluck, however, differs from Semon in being an advocate of total excision of the larynx where less radical procedures would be ineffectual. The latter points to the reports of suicides, and the condition of the patient after the so-called successful operation which seems to excuse the crime, while the former, on the other hand, adopts and defends the orthodox Hippocratic doctrine that it is our duty to preserve life even if it is not worth the living. He might also add that the patient whose laryngeal cancer is untreated has no choice of life or death, while the man without a larynx can commit suicide if he chooses as well as he could before he lost his larynx.

Gluck's *résumé* is as follows: 1. Inoperable patients with carcinoma laryngis, and such on whom only tracheotomy was performed, four cases. 2. Operations on malignant growths of the larynx: (*a*) Total extirpation, all carcinoma, nine cases, seven recoveries; (*b*) unilateral laryngectomy (three sarcomas, eight carcinomas), two thirds of the larynx being removed twice, eleven cases, six recoveries—total, thirteen recoveries out of twenty cases of radical operation; among which are still alive without recurrence eleven cases.

Of the two deaths, there was one total extirpation in which the patient died after five months and a half of pulmonary tuberculosis and one unilateral laryngectomy in a diabetic who died after ten months, of apoplexy. It is of interest that in the last twelve operations which were performed one after the other—eleven carcinomas and one sarcoma—eleven may be reported as having recovered. Only one death occurred, and that upon the twelfth day after laryngotomy in a seventy-year-old patient, from iodoform poisoning.

By recovery (*"Heilung"*) Gluck evidently refers to the immediate results of the operation. Of those still alive, the time elapsed since the operation is respectively six years and three months (sarcoma), five years and three months, two years and six months, two years, two years, one year and three months (extensive operation), one year (very extensive operation), nine months, seven months, nine months, four months. In none of these cases, nor in those dying of other causes since the operation, does there seem to have been any recurrence of the disease. In many of these cases, as well as in those of Semon and Fraenkel, it will be noted that the cases have not yet passed the three-year limit, and doubtless on this account the reports will be severely criticised; but, as Semon contends, there is no pathological reason why that time should be selected by those looking for recurrence as the limit within which it is to be expected.

All these papers need to be carefully read in their entirety by those who wish to place themselves *au courant* with the present status of our knowledge in regard to this most important subject. In connection with the papers above mentioned, the statistical ones of Hansberg * and Schmiegelow † and the exhaustive monograph of Sendziak (1897) may also be read with profit.

When we compare the results exhibited in these papers with those reported even a few years ago, we are in a position to realize how much advance has been made, because it will be seen that in that time laryngeal cancer has been taken from a local category which was formerly regarded with hopeless despair and shown to be, under suitable circumstances, most favorable for radical operation.

Massucci ‡ describes a growth of the larynx which when first observed was proved by microscopic examination to be fibroma, but which after a lapse of three years was found to have been transformed into a myxoma. He then proceeds to quote various authorities as to the frequency of transformations of benign tumors. This question is closely allied if not identical with a subject which has interested a few writers on laryngological and rhinological pathology for several years. Massucci incidentally calls attention to the fact often overlooked, that a tumor is not an unchanging entity during its life, but may undergo many changes. This is a theme which Virchow has lately dwelt on in the first number of the one hundred and fiftieth volume of his *Archiv*, which was founded just fifty years ago: The Continuity of Life as the Foundation of Modern Biological Opinion is the great German savant's contribution to his jubilee number.

While it seems highly probable that a fibroma may gradually become traversed by constantly enlarging blood-vessels, and is thus transformed into a so-called angeioma, very frequently observed on the nasal sæptum; or that its fibres, especially in old people, may undergo hyaline and fatty degeneration, or become infiltrated with round cells and then present the appearance of an inflammatory granuloma; or, still further, that it may become œdematous by being soaked with serous exudate, there is no evidence to prove that it may so change its type as to become an adenoma, or a lymphoma, or a myxoma. This apparent transformation into a myxoma I am constrained from long study of many nasal and laryngeal neoplasms to regard as an œdematous infiltration, exactly corresponding to the formation of the ordinary œdematous nasal polypus which I have on many occasions declared to be, according to my belief, the result of inflammatory or analogous processes. Myxoma (embryonic tissue tumor) does occur in the larynx, but not in the nose. I have in my collection several examples of it from the larynx. It may therefore be possible that Massucci's tumor was a myxoma; but from the plates which accompany his paper, and from our present understanding of pathological laws, it seems probable that we have here another instance of the mistake pointed out first by Chiari, many years ago, as to the nose, and more recently as to the larynx—*i. e.*, the mistake of calling an œdematous fibroma or fibrous hypertrophy a myxoma. As to the possibility of the degeneration of a benign into a malignant growth, we are as far from a solution of the question as ever, unless the discoverers of a pathogenic micro-organism in cancer establish the validity of their claims. This seems far from being the case at present; * but if it should be established that malignant growths are infectious lesions due to the influence of the germs they may contain, we could readily understand how a benign proliferation might receive its impetus toward malignancy, but as long as we do not believe in the metaplasia of cells outside of certain lines of variation, we can not accept the so-called malignant degeneration of benign growths as a fact. Nevertheless, the close relation of adenomata to epitheliomata, and the close connection between benign adenoma and malignant adenoma, and the relation of adenoma to other benign growths within the nose, upon which I have recently dwelt in a paper in this journal (November 13, 1897), would seem to establish something of a bridge between the benign and malignant epithelial growths. The uncertainty in the microscopic diagnosis between some of the forms of sarcoma and benign connective-tissue growths may also be deduced as an argument for the probability of a change in type. The clinical evidence of such a transformation of cellular energy must necessarily always be more or less unsatisfactory until we know more of cellular biology.

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* *Archiv f. Laryngologie*, Band v.

† *Annales des maladies de l'oreille*, April, 1897.

‡ *Archivio italiano di otologia*, vol. vi, fasc. 1, 2, 3.

* *Vide* Hanseman, *Die mikroskopische Diagnose der bösartigen Geschwülste*, Berlin, 1897, *et alidem*.

M. Grossman * publishes a long paper concerning the theory of posticus paralysis. He reports a long series of experiments, from the results of which he thinks he is justified in drawing this conclusion in regard to Semon's law: "And so we find in the theory of 'primary posticus paralysis' scarcely an assertion which can withstand a critical examination." So far as I am able to judge, after a laborious perusal of Grossman's work, he partially but not wholly succeeds in proving that the primary position of adduction in laryngeal paralysis results, not from a primary involvement only of the nerve fibres supplying the posticus muscle, but is regularly the first result of a complete annihilation of the function of all the recurrent nerve fibres. He subjects Semon's observations and experiments to a careful examination and criticism, and vigorously rejects his so-called "law," which he says has been imposed upon the laryngological world by the energy and persistence of its author, and not by its own intrinsic merits.

Grossman's paper is sure to be the signal for fresh polemics over a subject that still remains as perplexing as when Rosenbach, Krause, and Semon first began their warfare fifteen years ago.

This last sentence had hardly been written when a fresh number of Fraenkel's *Archiv* (Band vi, Heft 3) arrived containing Semon's reply. Grossman's paper certainly contained unseemly and uncalled-for reflections upon Semon's honesty of purpose, and in this respect it can not be too strongly condemned. The responsibility of the editor in first allowing such matter to see the light can not be ignored. Semon's reply, however, filling more than eighty pages, is much of it written in a tone and manner that are not in keeping with the dignity and personal abnegation we are accustomed to expect, at least in this country, from one of his acknowledged scientific worth. It deprives him of that sympathetic audience which his talents and attainments would otherwise supply. So far as I can see, he reasserts and successfully establishes the validity of his former experimental observations. His promise to abstain in the future from all contributions to the controversy in regard to laryngeal innervation until such time as he shall have modified his opinions as to its scientific merits is certainly a relief to those of us who take no interest in polemical literature.

As a matter of fact, the whole subject is so intricate and so involved in contradictory observations that there are very few men in the world capable of judging of the merits of the controversy, and it is no small detriment to the careful student to be compelled to wade through dreary page after page of personal recrimination and continued reiteration in order to be sure that he has missed no vital point in the discussion. Both Fraenkel and Rosenbach reply to some criticisms of Grossman in the same number of the *Archiv*. They reassert their former views. This whole question has been reopened and, as even Semon himself admits, the last word has not yet been said in regard to it.

Again, the validity of the opinion just expressed is exemplified by the appearance in the next number of the *Archiv* (Band vii, Heft 1) of an important paper by Grabower, which, it seems to me, pretty clearly contravenes Grossman's interpretation of his observations. From it we are led to believe that Grossman was correct in his statement of the median position of the vocal cords for some hours, even days, after the severance of the inferior laryngeal nerves, but the longer observations of Grabower revealed the fact that, after such a length of time, the vocal cords assumed the position we are accustomed to call cadaveric. His further investigations tend to show that this is due partly to the action of the crico-thyreoid muscle, supplied as it is by the superior laryngeal nerve, and partly to the actions of the thyreo-hyoid and other external laryngeal muscles, but that after the first few days these muscles cease to be sufficiently stimulated to cause any adduction. The most interesting part of Grabower's investigations, however, lies in his experiments and observations on the posticus muscle. He clearly shows (as others have) that this muscle has no synergists, and that when the muscle itself is cut through we get prompt and complete median position of the vocal cord, which only retires to the cadaveric position on section of the inferior laryngeal nerve. Of still further interest, as bearing upon a possible explanation of the greater vulnerability of the posticus muscle, which is expressed in the Rosenbach-Semon "law,' 'is Grabower's suggestion that the reason is to be found in the different methods of the termination of the filaments of the nerve twigs supplying the adductors and of those supplying the abductor. He shows in the plate accompanying his paper that the filaments seem to have a broader and firmer attachment to the muscle fibres of the adductors than to those of the abductor. He promises in the near future a more complete publication of his observations in this particular. Should he establish this as an incontrovertible fact, it is probable that insatiable human curiosity will still ask its eternal Why?

In a previous number (Band vi, Heft 1) Grabower also reports experiments on eight dogs, which tend to disprove the statements of Onodi in regard to the centre of phonation being in the corpora quadrigemina, but the question is still in such a chaotic and contradictory stage that a review of it would be hardly profitable. Grabower's experiments corroborate similar ones made several years ago in the work of Semon and Horsley.

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* *Archiv für Laryngologie*, Band vi, Heft 2.

Dr. Sutherland and Dr. Lack,* in a very interesting paper on congenital laryngeal obstruction, call attention to a condition of stridor which is not infrequently observed in infants at birth or shortly afterward. It is a condition frequently met with in dispensary practice, and may be accompanied by some cyanosis and dyspnœa. The voice, however, is usually clear and the child is not aphonic. Some writers have ascribed the trouble to a posticus paralysis and others to a reflex spasm due to the presence of pharyngeal lymphoid hypertrophies. My own observations have convinced me that in the majority of the cases these causes may be excluded, and I am very ready to accept the suggestion of the authors that the symptoms are due to the flaccidity of the laryngeal structures at this age. The epiglottis being folded on itself, and the mucous membrane and the ligaments being lax, the inspired air has to pass between approximated and resilient walls. The trouble is rarely fatal, but may persist for several years. Treatment, of course, is only indicated in dangerous dyspnœa. The differential diagnosis in these cases is a matter that might be dwelt on a little more emphatically than these authors seem to think necessary. The examination of the larynx in children at this age, in spite of the manœuvre described by the authors, is a matter of some difficulty, and until it is satisfactorily made we are never absolutely sure that we have not to deal with papillomata. A clear voice is neither always present in these cases, nor is it always absent in papillomata, especially when the growths are not on the true cords.

Auché and Brindel † contribute a paper to the bacteriology of atrophic rhinitis which confirms the observations of many previous observers. They examined twenty cases, and their results are summed up as follows:

"1. The diplobacillus of Löwenberg has been demonstrated in all the cases of atrophic rhinitis with or without ozæna in course of evolution. It was not found in old atrophic coryzas which had apparently been cured. It is not the pathogenic agent of ozæna.

"2. The pseudo-diphtheria bacillus was found eighteen times out of twenty observations of atrophic coryza in course of evolution. It was met with twice in four patients affected with old atrophic rhinitis which had been much ameliorated. It is not the causative agent of ozæna. It is very probably only a saprophyte developed in the nasal chambers of patients affected with atrophic coryza, on account of changes in the secretions of the mucosa.

"3. The little bacillus of Pes-Gradenigo was only found in cases of ozæna (crusts), but only in the proportion of three to twenty.

"4. Electrolysis produced no effect upon the microbial flora of our patients."

Arslan,* after the bacteriological examination of twenty-four cases, arrived at results which are equally negative so far as concerns the discovery of an organism which could be regarded as the causative agent of the malady, but he is disposed to be rather optimistic in his views as to the efficacy of the serum treatment of ozæna. He treated a number of cases with diphtheria antitoxine, but an analysis of all his cases does not seem to me to warrant the hope that in the serum we shall find a satisfactory curative agent for this distressing malady.

Although Gradenigo has recanted his first favorable opinion of the method and there have been other discouraging reports, there seems to be considerable interest abroad among rhinologists in the outcome of experience with the method. Moline † reports having cured three cases of advanced ozænic atrophic rhinitis by the repeated injections of ten cubic centimetres of Roux's diphtheria antitoxine. He reserves his decision as to the value of the method for fuller experience, and he suggests that the curative properties may reside in ordinary horse serum. Compaired ‡ sums up the results of his experience with the "new treatment of ozæna" as follows:

"1. At present this procedure is one which furnishes the most positive results in the treatment of ozæna.

"2. The result is shown subjectively by the disappearance of the fœtor after the second or third injection of five or six cubic centimetres of serum recently obtained and employed according to all the aseptic and antiseptic rules; and objectively by the absence of dryness in the nasal fossæ with diminution of the crusts and the increase of the nasal secretion.

"3. Objectively, a change in the color of the mucosa is noted, becoming redder, moist at times, and slightly congested and hyperæmic.

"4. The crusts are less hard, dry and extensive, and become more fluid, according as the number and dose of the injections increase.

"5. The quantity of ten cubic centimetres proposed by Gradenigo is not free from danger, and this is so even in the weaker doses. For this reason it is necessary to use the injections in gradually increasing doses with great care.

"6. The treatment in question offers many inconveniences and dangers, but, on the other hand, it furnishes very positive results; therefore it is proper that the study of the method should be carefully pursued."

Luc,# who has done so much to elaborate a rational plan of operation for empyema of the frontal sinuses, describes a new procedure for opening and draining the maxillary antrum. He removes a piece of bone from the anterior wall of the antrum, under the lip, in the canine fossa, and, as is usual in this method of operating, curettes the sinus. He then, with a drill, perforates the nasal wall of the antrum from the cavity in such a way that the nasal opening will be under the inferior turbinated bone. He then inserts a rubber drain with a flaring end in the antrum, such as he uses for the frontal-sinus operations. He then sutures the mucous membrane at the incision in the canine fossa, allowing this perforation to close, which it rapidly does. The rubber tube in the nose is then used for draining and washing out the antrum, and for the insufflation of iodoform. According to Lue, two or three weeks are necessary for producing a cure in long-standing and obstinate cases. If this is true for all cases the operation needs no further recommendation, but as yet the distinguished author has only operated in a few cases by this method.

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* *Lancet*, September 11, 1897.

† *Revue hebdomadaire de laryngologie*, etc., No. 41, 1897.

* *Archivio italiano di otologia*, vol. vi, fasc. 1, 2, 3.

† *Annales des maladies de l'oreille*, etc., April, 1897.

‡ *Ibid.*, May, 1897.

# *Archives internationales de laryngologie*, etc., No. 3, 1897

Suppuration of the antrum is not an everyday observation in even the busiest laryngologist's practice. Many cases of antrum suppuration get well without treatment—some probably in spite of it. Some get well with any of the various procedures recommended, but the fact of the matter is that, occasionally perhaps after a series of successful cases, an operator, whatever method he may use, meets a case which baffles his skill, and his attempts exhaust the patience of the sufferer. It is probable that some cases of this kind, which every one has met with, may be cases of mistaken diagnosis as to the primary origin of the pus. So in regard to Lue's method, we may well afford to wait until the author has had a more extensive experience with the operation himself. Allowing the primary opening in the canine fossa to close immediately after the operation would not seem to have the same urgent indications as in the case of the frontal-sinus operation, because we here have no fear of disfigurement from a scar, and the opening is itself at a more dependent part of the cavity than that into the nose. Its principal recommendation lies in its draining into the nose rather than into the mouth, and possibly in the less marked tendency for the opening to close. However, it must be much more difficult to tampon the cavity properly through the nasal opening, and it seems to me the use of an iodoform gauze tampon is far superior to any method of draining the antrum.

Drains in the antrum have, in my experience, been irritating and provocative of continued suppuration, but it may be that if the flaring end of Lue's tube is drawn well within the nasal opening this irritation may be avoided.

Recent experience has convinced me that in some cases it is perfectly practicable not only to thoroughly syringe the antrum out through the hiatus semilunaris, but that under this treatment some of these cases promptly and permanently recover, even when of long standing. At the best, however, it is an uncertain method, and theoretically is one which we should not expect to succeed, since we not only have a suppurating cavity with rigid walls, but the opening at the apex is of exactly the size, shape, and position we would avoid in making an artificial one.

Dr. Gorue, a surgeon-dentist,[*] reports having examined two hundred and one specimens of postnasal lymphoid growths at various ages, both microscopically and bacteriologically, and, as a result, he declares: "Direct examinations, cultures, inoculations, and histological examination have not succeeded in revealing either a single giant cell or a tubercular nodule, and not a single Koch bacillus." He also denies that the secretions of the nasal fossa have any bactericidal power. The most frequent organisms found were streptococci and staphylococci. This conforms closely to the results obtained by Dr. Park and myself, which have lately been published in this journal.

WHEN AND WHY SHALL WE OPERATE IN INSUFFICIENCIES OF THE OCULAR MUSCLES?[†]

By ALEXANDER DUANE, M. D.

There is perhaps no subject in the whole range of modern surgery that has excited such prolonged and heated controversy as has the question of operating in insufficiencies of the ocular muscles. So bitter has this controversy been in many instances, that bystanders may well be pardoned for doubting if anything of value can come from discussions in which each observer's results are so evidently gauged according to his personal equation, and in which each one's judgment of the results obtained by others is so often warped by the dictates of an almost savage personal antagonism. Nevertheless, every contribution to the question, if honestly made, tends somewhat to clarify the matter, and hence I have thought it worth while to bring forward some experiences of my own, using for the purpose cases that I had under observation eight years or more ago, as I believe that the time thus elapsed and the experience gained since have enabled me to judge more certainly and more dispassionately in regard to the results then attained.

Of the twenty cases recorded below we shall have to omit from consideration Case XVI, in which, although there was improvement, the ultimate outcome was uncertain.

Of the other nineteen cases, a marked improvement was obtained in nine, a moderate improvement in three, and no improvement in seven. As we always learn more from our failures than from our successes, I shall consider these in some detail.

Case I, which has been under my observation since

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[*] *Annales des maladies de l'oreille*, etc., May, 1897.

[†] Read before the Hospital Graduates' Club, October 28, 1897.

1886, came under the treatment of another surgeon in that year. She had at that time a marked left hyperphoria, for which he performed tenotomy of the right inferior rectus. This produced a considerable overcorrection, which he sought to remedy in the following year by a tenotomy of the right superior rectus. The result was a return of the left hyperphoria, with annoying spontaneous diplopia, conditions which, as I have myself found by repeated observations, have persisted with notable constancy ever since. A more precise examination made last year and again in February, 1898, proved to me that this hyperphoria and diplopia are due to an insufficiency of the right superior rectus, superadded to which there is an insufficiency (less marked) of the depressors of the right eye. Now, this insufficiency of the right superior rectus was evidently the main condition, and I can not help regarding it as primary also, being present at the outset, and constituting the cause of the left hyperphoria then existing. This would not have been a matter of guess, but would have been absolutely proved, had the methods of examination now in use been applied at that time. If this view is correct, it was a great mistake to attempt to remedy the condition by a tenotomy of the right inferior rectus, as by so doing an eye which was already crippled for movements upward was not materially helped in this regard (since the inferior rectus does not act in the upper field), and was furthermore permanently crippled for movements in the opposite direction. Then the subsequent tenotomy of the right superior rectus only aggravated the trouble by weakening a muscle already naturally weak. What should have been done was in the first place to advance the right superior rectus (thus strengthening the weak muscle), and then to supplement this operation, if necessary, by a tenotomy of the left superior rectus (which was, relatively speaking, too strong). In this way probably as good a result would have been obtained as in the very similar Case XVII.

A somewhat similar explanation applies, I think, to Cases IX and XX. Here there was a marked inward deviation, due, however, not to excessive convergent action nor to excessive action of the interni *per se*, but to weakness of the diverging power (the power by which the visual axes are made to separate from each other)—*i. e.*, the patients had esophoria, not because the inward (convergent) motions were too strong, but because the outward (divergent) movements were too weak. To remedy this weakness by making the normal opposing action too weak only made a bad matter worse. What should have been done was to strengthen the diverging power, or, since this can not be accomplished directly, to strengthen the externi by advancing them.

In Case II quite a different reason for failure existed. The operation was certainly indicated. There was a well-marked ocular deviation, and there were very well-marked ocular as well as general symptoms. Here, however, subsequent examination has shown that a then unsuspected uterine trouble (a long-standing retroversion) was mainly at the bottom of these symptoms, and the correction of this will probably, when complete, remove the neurasthenia and, very likely, the asthenopia as well. The case is instructive as showing how cautious we should be in regarding even pronounced eye symptoms as necessarily due to eye strain. In the mean time the ocular deviation, which was in itself a cause of annoyance, has been largely corrected by the single operation, and I anticipate a complete correction by a second one undertaken in the near future.

Similarly in Case IV neglect of an ætiological factor rendered the treatment nugatory. The symptoms seemed so obviously dependent upon the excessive convergence and the hyperphoria that all attempts were directed to the correction of these anomalies alone. But, in spite of the operations, the symptoms persisted, and, moreover, the excessive convergence recurred. It was then recognized that the convergence itself was secondary, being, in fact, due to latent hypermetropia and to spasm of accommodation (fostered by the use of improper glasses). The proper glasses then being given, the excessive convergence, and with it nearly all the disagreeable symptoms, disappeared.

With regard to the two remaining cases (III and XIX), I confess that I do not see wherein the cause of the failure lay; but in Case III I suspect that, as in Case II, some condition other than the ocular anomaly lay at the foundation of the trouble; and in Case XIX, I believe that, in consideration of the probable cause of the esophoria, advancement of the right externus, rather than tenotomy of the right internus, was indicated.

The foregoing cases illustrate sufficiently well what a subsequent experience has led me to regard as the main *causes of failure* in these operations. Either an attempt is made to correct a muscular anomaly which is not, primarily at least, the cause of the symptoms, no attention being paid to the other pathological conditions from which these symptoms really take their origin; or, the muscular anomaly being the cause of the symptoms, its true nature is misunderstood, and it is therefore attacked in a faulty way and by a procedure not calculated to relieve it. In both instances faulty diagnosis is at the root of our faulty therapeutics, and the more thoroughly we go into all the features of our cases and the more carefully we analyze the muscular anomalies that they present, the less likely are we to commit operative blunders and the smaller will be our proportion of failures. This would seem to be a truism, but, trite as it is, it is a fact that is too much disregarded; and this disregard has tended to throw discredit upon what with proper limitations is useful surgery. Enthusiasts too frequently forget that when they find an esophoria in a person suffering from habitual headache, the headache is not necessarily the result of the esophoria; and, even when it is, they often fail to realize that the esophoria itself may have various causes, and that to remove it will in different instances require quite different procedures, according to its cause.

Another cause of failure, particularly in advancement operations, is faulty technique. This was seen, for example, in Case VIII, in which, owing to the adoption of a wrong method of making the advancements, the tendons repeatedly gave way, and the treatment consequently was unduly prolonged.

Three cases are noted as *moderately improved.* In two at least (X and XI) the improvement was certainly marked enough and lasting enough to justify the operations. In the third (Case XIII) the patient was an epileptic who had been taking bromides steadily for ten years. The medication had not completely controlled the disease, for he still had attacks of *grand mal* at rather long intervals and two or three attacks of *petit mal* every day. In addition he had numerous headaches, was very lethargic and depressed mentally and physically, and suffered from loss of memory and lapses of consciousness. The bromides were stopped, and the not very pronounced muscular anomalies corrected by operation. The result ten months later is thus stated: Has taken no bromides for nine months; epileptic attacks after a marked remission are now more severe and frequent than before; headaches very much less; general health and nutrition much improved; mental condition very much better. In other words, his epilepsy was not benefited by the operations and was rendered worse by the discontinuance of the bromides. His other symptoms were greatly improved—whether by the discontinuance of the bromides or by the operations, I leave the neurologist to decide.

Turning from these cases, in which the result was mediocre or doubtful or absolutely *nil,* we find nine in which the result must be pronounced *successful.* In some it may be actually called brilliant. Thus, in Case V the headaches disappeared, the general health, which had been poor for some years, was so improved as to be a matter of remark to all who knew the patient, and, in fine, from being a nervous, run-down subject, with many of the symptoms of nervous prostration, she became and continued to be a well woman. All this was apparently the result of the ocular treatment, as no other treatment whatever was employed, and there seemed to be no other reason sufficient to account for so marked a change.

Case VIII is perhaps even more striking, since the good result, so far at least as the reflex symptoms were concerned, was entirely unexpected. In this case the operation was performed solely for cosmetic reasons —*i. e.,* to remedy a noticeable, although inconstant, deviation. Owing to the complexity of the conditions present, this deviation required several operations and considerable time for its entire correction. Meanwhile, the headaches, which had been of daily occurrence, disappeared so completely that in a year the patient had only five, and her general health was very noticeably improved. In this case, too, no treatment other than that addressed to the eyes was employed; and, as not the slightest intimation had been given the patient that she was likely to be benefited in any way except as to appearance, there was no suspicion of a cure by suggestion. I may add that the results thus obtained were permanent.

Without going at length into the other cases—and in regard to them I should add that the improvement was usually much more marked than would appear from the imperfect notes here set down—I think that it may safely be said that—

(*a*) The positive results obtained, even with the crude methods adopted in the series above presented, outweigh the negative.

(*b*) The showing probably would have been better still had greater care in the elimination of other morbid factors, greater precision in the diagnosis of the muscular anomaly itself, and better technique been applied in the unsuccessful cases.

In the light of these cases as well as of others that I have been able to follow, I will comment briefly upon the *objections* commonly urged against these operations. These objections are:

1. The conditions for which the operations are done are *comparatively rare.* This, however, is certainly not so. The conditions in question only seem rare; when looked for systematically, they are found to be frequent enough. Thus, of the last one hundred cases that I examined in private practice, in which the muscular condition was determined, I find that in only forty-five could the eyes be regarded as properly balanced. In thirty-five there was a slight muscular anomaly and in twenty-five a well-marked one. And from previous investigations I am inclined to think that this proportion is rather under than over the truth. Of course, this does not mean that because twenty-five per cent. of our eye patients have a muscular anomaly, anything like that proportion will require an operation, or, indeed, any treatment whatever for the anomaly; any more than the fact that we find only fourteen per cent. of children to be emmetropic means that six children out of seven should wear glasses. It does mean, however, that the condition of heterophoria is much more frequent than many suppose, and that it, no doubt, requires correction much oftener than is supposed.

2. The second objection is that the conditions, although frequent, are *variable and inconstant*—showing spontaneous changes in amount or character, or even disappearing altogether. Now, while this is true of some cases, I think that I can affirm from pretty prolonged and careful observation that it is not true of many. In most of the cases that I have watched, the conditions have either remained constant for a long period or have changed in a perfectly definite way and for a definite reason. This was strikingly shown in Cases I and II, which have been under observation for ten and eleven years respectively, and in which the examinations made at different times during these periods have given uni-

formly concordant results; also in other cases, not here recorded, and not operated upon, which were under observation nearly as long; and in still others which have been followed for two or three years at least.

Nevertheless, the objection holds good in some cases, and hence an operation should never be decided upon hastily. In my own practice, in order to ascertain in any given instance whether the deviation is variable or constant, I try to keep the patient under observation for a month—in cases of doubt for a longer time—before determining upon an operation.

3. The third objection is that the muscular trouble, when present, is *not the cause of the symptoms.* This also is true in part, as was well seen in our Cases II and IV and in several others that might be adduced. And the fact that it is sometimes true should lead us to be cautious in our diagnosis and to exhaust other means of treatment before proceeding to operation, even when the latter seems directly indicated. Hence, in any given instance I try first to find what I can effect by general and tonic treatment, by muscular exercise (particularly exercise of the eye muscles with prisms), and by correction of the refraction. I usually try these measures for a month or more before I think of deciding upon an operation. At the end of that time it may happen that the deviation itself has disappeared together with the symptoms. Oftener it persists; but even when it does, I frequently find that the symptoms have been relieved, so that the deviation is evidently not the main cause of them and may be disregarded. But this is by no means true of all cases; non-operative measures often fail even after prolonged trial; and then I have no hesitation in operating, and now with the assurance that whatever good results are obtained can be due only to the operation. And in this regard I may say that my experience differs from that of some other observers, for, unlike them, I do not find that correction of the refraction alone suffices to cure any very great proportion of ocular deviations, and I do find that there is quite a respectable percentage of the muscular cases in which neither this correction, nor indeed any treatment except an operation, succeeds in relieving the symptoms.*

4. Others declare that the good results of these operations are *due to suggestion.* That this is true in many cases I have no doubt. That it was true in mine I do not believe. I rather took pains to avoid giving my patients the impression that they were going to derive any very great benefit from the operation. I usually told them that in a certain number of cases the procedure is successful; that I could not tell that it was going to be so in theirs, but that I thought it worth trying. In some instances, as in Case VIII, even this qualified statement was withheld, and the results obtained were not expected either by the patient or myself. I should no more think of ascribing the cure to suggestion in these cases than I should in those where the relief of asthenopia and headache is effected by the use of glasses for hyperopia and astigmatism.

5. Again, it is urged that the operation is more *formidable* and *gives the patient more inconvenience* than does the condition which it is intended to relieve. But the inconveniences of the operation are in reality slight and the amount of discomfort produced generally inconsiderable. There is practically no pain, and the wounds heal kindly and at once. Nor does the operation entail any prolonged disuse of the eyes; on the contrary, the best results are secured by having the patient use his eyes as soon as consistent with the integrity of the new adhesion formed—*i. e.*, within a few days at most.

6. Another reproach frequently brought against these operations is that the surgeons who do them *multiply them beyond reason,* performing scores of tenotomies and advancements to correct a single deflection. It must be admitted that there is much reason in this objection. Yet, as I myself have observed, such statements are generally found upon impartial examination to be considerably exaggerated, and it frequently happens that several distinct kinds of operations done upon different tendons and to correct distinct deformities are characterized as repeated operations upon the same tendon. Be that as it may, I am sure from my own observation that we rarely need reiterated operations in order to get good results, and that the increase in our diagnostic knowledge and the employment of a proper technique will still further obviate their necessity.

7. Lastly, it is said that the results, although good temporarily, are *not permanent.* This again contradicts my experience. So far as I have seen, the effect produced by an operation, both upon the deviation itself and upon the symptoms, is usually lasting. There are, it is true, not a few exceptions, but these, I believe, occur mainly in the cases in which either the wrong sort of operation has been performed or in which accessory conditions tending to keep up the deviation have not been removed (*e. g.*, in Case IV).

In spite, then, of these various objections my experience leads me to regard the operation as justifiable and useful in quite a large number of cases. If this opinion —which, of course, is not based simply upon the few specimen cases above adduced, but upon many others studied since—is admitted, we may ask in conclusion—

(*a*) What may we expect to accomplish by the operation?

(*b*) What are the indications for it?

So far as my observation goes, we may expect by the operation *to relieve the following conditions:*

1. An obvious disfiguring deflection of the eyes and the often annoying diplopia that such a deflection may give rise to. The term diplopia, I may add, includes not only the pronounced form in which the objects ap-

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* Compare Cases V, VI, VII, VIII, and XVIII, in which correction of the refraction seemed evidently demanded and was ordered, but in which the good results could not be ascribed to such correction, as the patients did not use their glasses.

pear frankly double, but also the slight intermittent form in which the double images are not distinctly separate, but overlap, and at times are fully united, at times spread apart again. This latter variety of diplopia produces great confusion of sight, particularly in reading, when the slight overlapping of the letters causes the print to look blurred, as though the types had slipped.

2. Pain in using the eyes and asthenopia; a sense of weariness and strain preventing the patient from using his eyes for very long at a time.

3. Headache, migraine, and other reflex pains (not infrequently referred to the occiput or spine).

4. A sense of constant confusion in the head and of dullness, causing aprosexia and mental hebetude and depression.

5. Vertigo.

6. Digestive disturbance, with impairment of appetite and nutrition and subnormal body weight.

7. Chorea (rarely).

It must be borne in mind that the disturbances above enumerated are *not necessarily in proportion to the magnitude of the deviation.* On the contrary, as I have elsewhere pointed out, it is precisely the moderate and small deviations that produce the most troublesome symptoms. The reason for this, no doubt, is that when the deviation is large, the patient, finding that he can not possibly correct it fully by muscular effort, simply leaves it uncorrected—lets his eyes go, so to speak—and hence is not burdened with the strain involved in keeping his eyes straight, as he is in the case of a smaller, more corrigible deviation. Another reason is that in many of the cases in which the deviation is apparently small, it is really large, part of it being latent; and, as being latent means being concealed by continuous muscular effort—*i. e.*, continuous strain—such cases, like cases of latent hyperopia, give more trouble than do those in which the deviation is all manifest, and hence obviously large.

The cases which in my experience are apt to cause the most pronounced symptoms are also the ones that I have found most *amenable to treatment.* I refer to cases of moderate vertical deviation (hyperphoria). Only, care must be taken not to tenotomize an inferior rectus when the hyperphoria is due to insufficiency of an elevator, or to tenotomize a superior rectus when there is insufficiency of a depressor. Cases of esophoria due to excessive convergence are likewise readily relieved (by tenotomy of the interni), provided the accommodative element has been previously eliminated by correction of the hypermetropia and astigmatism. On the other hand, an esophoria due to an insufficiency of divergence or an exophoria due to an insufficiency of convergence (when non-accommodative), while they often give rise to marked trouble, are also very difficult to treat. They require the performance of an advancement, supplemented by exercise with prisms. Cases of exophoria due to excessive divergence do not often give rise to trouble, and are fairly amenable to treatment (by tenotomy of the externi).

(*To be continued.*)

THE TREATMENT OF
THE VARIOUS FORMS OF TRACHOMA.*

By JOHN C. LESTER, A. M., M. D.,
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Trachoma, or "granular lids," is recognized to be one of the most formidable of the extrinsic diseases of the eye. This fact, together with the fact that the majority of those suffering from this disease come primarily under the observation of the general practitioner, renders it especially important that the practitioner should be conversant with its characteristics and able to recognize it in its incipiency. In view of the fact, also, that the subject of contagious and infectious diseases of the eye is at present receiving especial attention by the health authorities in the larger cities, a discussion at this time of trachoma can not be devoid of interest.

Historical evidence traces trachoma back at least thirty-four hundred years (papyrus *Ehira*).† It was known to the Egyptians, Israelites, Greeks, and the Romans. The European infection with trachoma may be attributed to Napoleon's soldiers, who contracted the disease in Egypt just one hundred years ago.‡ Since 1850 there has been a decline, and now it has confined itself more or less to Russia, Hungary, Belgium, and eastern Prussia. In eastern Prussia and Posen its prevalence is due to poor hygiene, overcrowding, lack of occupation, poverty, alcoholismus, etc. In New York city, too, this disease is more prevalent among the natives of the countries just enumerated, although trachoma is frequently found among the native-born Americans, the Irish, and especially the Italians.

Although Hirschberg (*loc. cit.*) asserts that trachoma is to be found in low countries only, and does not exist six hundred metres above the sea level, as in Switzerland and Tyrol, Van Millingen # and others assert with equal positiveness that trachoma is not influenced by altitude, and may exist quite as easily at altitudes of from one to five thousand metres as on plains, the only indispensable factors for its propagation being (1) contagion, (2) defective hygiene. Corroborative of this statement as to the propagation of trachoma is the great prevalence of trachoma among the Jews of New York city. This, however, is not due to any racial predisposition, as Jews of the better classes are no more prone to

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* A paper read by invitation before the Bridgeport, Conn., Medical Society, February 1, 1898.

† Hirschberg. *Berlin. klin. Woch.*, Nos. 10 and 11, March 8 and 15, 1897.

‡ Kirchner. *Berlin. klin. Woch.*, Nos. 9 and 10, March 1 and 8, 1897.

Annales d'oculistique, September 1, 1895.

the disease than those of other nationalities. Hence it is due to their well-known lack of hygiene and to their Asiatic habits.

It has been asserted that the negro race (Swan M. Burnett *) is practically immune. Knapp and Noyes agree that negroes are only exceptionally affected. The experience of the writer is confirmative of these assertions, for among many hundreds of cases examined there have been but few occurring in negroes. I remember one case distinctly, in which the affection occurred in a young negro, was limited to the left eye, and the disease was of the acute type. On the other hand, Van Millingen (*loc. cit.*) states that an immunity for certain races does not exist.

The question as to whether trachoma is contagious or not is still unsettled. Some authorities, such as Noyes, Fuchs, De Wecker, Berry, Holt, and many others, consider trachoma a contagious disease. On the other hand, Forrester, Burnett, and Blaw deny the contagiousness of trachoma. But Schmidt-Rimpler has proved the transportation from person to person. Van Millingen, however, says that inoculation of trachomatous material into a healthy conjunctiva has failed to produce the disease. Michael, a German, claims trachoma is due to the presence of a microbe named by him the "trachoma coccus." Ole Bull † believes that the plasmodium of Kreudener is probably the active agent in producing trachoma. Stevens,‡ whom I quote *verbatim*, says: "If there is a specific germ or a contagion, it finds no favorable soil for its development in the absence of anophoria." Much as the writer admires Stevens for the work he has done in solving those intricate problems connected with the derangements of the muscular apparatus of the eye, still I am free to confess that statements of this kind appear at least rather fanciful and are certainly too speculative. From my own standpoint I certainly feel that trachoma can not be but both contagious and infectious. There are men—and among them Knapp—who take the middle ground—that is, they consider that there is a form of trachoma which is non-contagious—"trachoma simplex." Moreover, they further believe that there is a contagious form of trachoma—"trachoma complicatum."

For a better understanding of the treatment of the various forms of trachoma it is necessary to adopt some definite division of the subject. Therefore it seems to me that the following general scheme conforms to what one observes in the average routine of cases. First, true trachoma, which may be subdivided into (*a*) papillary or granular; (*b*) follicular; (*c*) folliculosis, the latter presenting the so-called frog-spawn or sago-seed appearance. Second, mixed trachoma. Here we have the chronic form, which may appear (*a*) in the form of isolated deposits of granules, and (*b*) lymphoid infiltration, which gives rise to the formation of large, succulent rugæ, being especially marked in the fornix of the palpebral conjunctiva. Excessive lymphoid infiltration will give rise to a spurious ptosis. This leads us naturally to the final general subdivision—the cicatrizing form. This may terminate in the formation of vascular keratitis, or pannus, and xerosis. Any one of these may have acute exacerbations.

It now remains for us to consider the treatment of the conditions which we have enumerated. Beginning, then, with the treatment of simple or true trachoma, we have essentially two methods to be considered—viz., a medicinal and an operative. The papillary or granular stage, in which the follicles are deeply imbedded in the tissues, is best treated with solutions of corrosive sublimate in strengths varying from 1 to 500 to 1 to 2,000. Cases adapted to this method of treatment are those in which the follicles are numerous, packed together, and have a hard and indurated base. The technique of the application of this remedy is of the utmost importance. As the process is a painful one, it is usually wise to employ a local anæsthetic before making the application. Holocaine, in a one-per-cent. solution, is to be preferred, because it has no effect upon the corneal epithelium nor does it produce mydriasis. Besides, its anæsthetic effects are more marked and prolonged than those of cocaine, eucaine, etc. After the instillation of the local anæsthetic, while waiting for complete anæsthesia, one should prepare the cotton-tipped toothpicks in the following manner: A small tuft of cotton is wrapped closely and tightly around one end of the toothpick. This is done to prevent any of the mercurial solution coming in contact with the cornea, and to aid in the more thorough application of the solution to the diseased part.

After complete anæsthesia the lids are everted, the cotton-tipped toothpick is dipped in the solution, and the parts are vigorously rubbed for at least thirty seconds. The occurrence of slight hæmorrhage should not deter the surgeon from continuing the application for the time indicated. After the lids of one eye have been thus treated the parts should be thoroughly dried with a pledget of absorbent cotton and a moist pad of the same placed over the eye before proceeding to treat the other eye. The advantage of this is twofold: it adds to the comfort of the patient and makes further manipulation easier. After both eyes have been treated in the manner described, it will be found advantageous to smear over the palpebral conjunctiva a mixture composed of white vaseline, boric acid, and cocaine (ten per cent. boric acid, two per cent. cocaine). The patient should be directed to use a 1-to-10,000 solution of the bichloride of mercury at home four or five times daily. The treatment thus outlined should be repeated every other day. In cases presenting the acute form of this type of trachoma the treatment varies somewhat. Where there is considerable secretion, together with lacrymation, and the tissues are succulent, there is no remedy like nitrate of silver, used in the following manner: A four- or six-ounce undine is filled with a one-twentieth-grain solution of silver nitrate. The lids having been carefully everted, the solution is allowed to flow slowly upon the exposed conjunctiva until the undine is empty. (The undine is held from one to two feet above the eye.) This treatment should be repeated daily. The therapeutic value of this treatment lies in the fact that, as the tissues present a large absorbing surface, the silver solution penetrates to the confines of the microbes, which are the essential element of the disease. This solution should be used cold, and can be applied without an anæsthetic. Here, too, the patient should be given a 1-to-5,000 or a 1-to-10,000 solution of the bichloride of mercury, and should be directed to use the same several times a day. But if the secretion is more purulent than mucopurulent, then a solution of chlorine water will answer the best purpose. It should be used in the proportion of one to twenty, and with the same frequency as the bichloride. In some cases they may be alternated with advantage. The chlorine solution should be made fresh each time for obvious reasons.

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* *American Journal of Ophthalmology*, September, 1896.

† *Central. prak. Augenheilk.*, November, 1896.

‡ *Ophthalmic Review*, September, 1897.

In the majority of cases of follicular trachoma, and especially that form known as folliculosis, a medicinal treatment alone is not sufficient to accomplish a cure. Here the ideal treatment will be found in an operative procedure known as the expression operation. Usually it must be performed under ether or chloroform narcosis, preferably the former. As the name implies, the granules or follicles are expressed or squeezed out by means of a specially devised forceps. Of these, the ones to be preferred, in the writer's opinion, are those invented by Noyes, and are made in pairs. Knapp and Prince have also devised forceps, known respectively as the roller and ring forceps.

After rendering the field of operation aseptic, the patient being fully anæsthetized and in the recumbent position, the operator stands or sits behind the patient's head, everts the upper lid, and holds it in that position with a pair of Gibson's forceps. He now grasps the upper lid at the outer canthus, holding his forceps firmly, but not roughly, and gently by a wrist movement brings the angular portion of the forceps toward the inner canthus. This procedure is repeated with the forceps in the left hand, beginning at the opposite canthus. These procedures are repeated until all the granules are removed from the conjunctival surface. After the upper lid has been thus dealt with the lower lid is operated upon in the same manner. Some difficulty will be encountered in removing the follicles at the extreme edge of the lid. These can be removed by scraping them with the points of the forceps. After one eye has been finished a compress is placed over it and an assistant makes firm pressure upon it, the object in view being the prevention of swelling while the operator is dealing with the other eye in a similar manner. Gibson's forceps is not absolutely necessary, as the duplicate forceps of the Noyes set can be employed in its stead.

The operation completed, the lids are irrigated with either a saturated solution of boric acid or a 1-to-5,000 solution of bichloride of mercury. When all hæmorrhage has ceased the conjunctiva is carefully dried and a 1-to-500 solution of the bichloride of mercury is thoroughly rubbed into the parts by means of a cotton-tipped toothpick, as before described. This is followed by an application of bichloride vaseline, 1 to 5,000, and the eyes are tightly bandaged for twelve hours. If, when the bandage is removed, one observes considerable reaction, evidenced by the swelling, chemosis of the conjunctiva, and ecchymosis of the lids, then it becomes proper to employ iced cloths continuously for half an hour every two hours, and in the interval, cold boric-acid bathing. Generally, however, but very slight reaction follows this procedure, the application of a bandage sufficing to control the reaction. When once removed the bandage may be omitted thereafter.

Although one should be careful not to inflict much injury to the conjunctiva, it nevertheless happens that, employing never so much care, some laceration of the structure usually occurs, and consequently the formation of adhesions takes place in nearly all cases. These must be broken up once daily by means of a silver probe, for which the instillation of cocaine may be called for. Following this, the application of bichloride of mercury, 1 to 500, as has been described, must also be carried out. The case now must be treated by the means advocated when considering the papillary or granular form of trachoma. As a rule, a cure can be obtained in from six to ten weeks, although it must be remembered that relapses are not uncommon.

We are now brought to the treatment of our third general division—cicatrizing trachoma. The consideration of this form involves really the methods to be pursued in treating its subdivisions, pannus and xerosis. Spasm of the orbicularis muscle, together with cicatricial contraction of the conjunctiva, not infrequently lead, through mechanical irritation, and otherwise, to a vascularized keratitis and, in many cases, to ulceration of the cornea. While the spasm of the orbicularis muscle is pronounced, especially of its border fibres, canthotomy is indicated. Nodules, small or large, should be destroyed either by electrolysis or the application of the actual cautery. Where these masses are numerous and there is a distinct tendency to relapse, or where there is evidence of reinfection, much time will be saved by a thorough scarification and the application of the 1-to-500 or 1-to-1,000 solution of the bichloride of mercury, as before described. This, of course, involves a general anæsthetic, and the subsequent treatment as described under the head of the operative treatment of folliculosis. The employment of the strong bichloride-of-mercury solutions, however, should not be prolonged beyond a reasonable period—seven to ten days at the outside.

At this point irrigations with the one-twentieth-grain solution of nitrate of silver are to be preferred and should be continued until cure is effected.

Any vascularization of the cornea must be met at once by the use of atropine and the pupil kept dilated *ad maximum*. Too much can not be said in favor of the prompt use of atropine in this complication. A resort to the operation called peritomy for the cure of pannus seems to us never justified. A valuable remedy in the treatment of pannus, and one which has been quite frequently used at the New York Eye and Ear Infirmary, is a solution of iodine in liquid vaseline. The solutions are used in the strength of one half, one, and two per cent., and are applied to the conjunctiva by means of a cotton-tipped toothpick prepared as before described when speaking of the application of the stronger mercurial solutions. More recently formic aldehyde in one-half, one, and even two-per-cent. alcoholic solutions has been employed at the same institution. The pain caused by this remedy is marked, and a local anæsthetic is required. This method of treatment is still *sub judice*, and will require further experimentation to establish its value in the treatment of this condition.

Where ulceration of the cornea has supervened, besides the treatment already referred to for pannus, the use of an ointment of either the red or yellow oxide of mercury is decidedly beneficial and should be used in strengths varying according to the age of the patient. Curettage of pannus is advisable where there is excessive injection, but is contraindicated when ulcerative processes are present in the cornea, as the nutrition of the cornea is then involved, and this vascularization, for the time being, is salutary.

When the nodules are discrete and have little or no tendency to multiply, and there is comparatively little inflammatory action, sulphate of copper is of undoubted value, and it is only in this condition that the writer believes the employment of this remedy is to be preferred. The same is true of the various solutions of tannin in glycerin.

Trachomatous xerophthalmia—second only in importance to the condition just described, due to mechanical irritation—is another disastrous condition due to pathological changes in the cicatricial stage of trachoma, in which the mucous glands of the conjunctiva become atrophied. The entire conjunctiva may be involved and the lacrymal glands obliterated. As a consequence the cornea, through lack of moisture, loses its epithelium and becomes cloudy, even opaque.

Dr. Rudin has suggested the only method of dealing with this condition, and that an operative one. Dr. Rudin shortens the palpebral fissure by sewing together the lids, thereby keeping a greater portion of the cornea moist by contact with the conjunctiva. This method has been successful in a limited number of cases, especially those cases in which there is more or less moisture remaining in the conjunctiva.

As one of the two great causes of the spread of trachoma is poor hygienic surroundings, no case of trachoma can be successfully treated for which there is not provided at the outset a healthful environment. Tonics, of course, are indicated and must be resorted to in nearly every case of trachoma.

In conclusion, the writer would again emphasize the importance of an early recognition of this disease by the average practitioner, that proper treatment may be instituted at once, as the prognosis depends so largely upon the prompt and thorough application of remedial measures along the lines thus crudely outlined.

179 Schermerhorn Street.

Therapeutical Notes.

Gundrum's Treatment of Grave Cases of Whooping-cough is thus set forth in the *Semaine médicale* (Quebec *Revue médicale*, April 20th):

℞	Sublimed calomel, Powdered ipecac, } each	1 grain;
	Sugar of milk	18 grains.

M. Divide into eight paquets, one to be given every two hours until they have all been taken. Then a dose of castor oil is to be given. The next day the following potion is to be ordered:

℞	Sodium bromide	120 grains;
	Atropine sulphate	0.007 to 0.15 of a grain;
	Syrup of bitter-orange peel	1,350 grains.

M. S.: A coffeespoonful every three hours. At the same time about a grain and a half of quinine is to be given every three hours, alternately with the potion. It is sometimes necessary to push the treatment to the extent of producing mydriasis and tinnitus aurium.

The Treatment of Ivy Poisoning.—Dr. J. Abbott Cantrell (*New England Medical Monthly*, June) concludes a paper on this subject as follows: I would place these medicaments in this order of preference. 1. Labarraque's solution. 2. Salol (because either produces a cure in less than a week's time). 3. Bromine. 4. Boric acid. 5. Acetanilide (because any one of these three may be relied upon to produce no ill effects). 6. *Grindelia robusta* (which can always be relied upon to produce a cure, but it is long delayed and the drug may, if not watched carefully, produce a higher grade of inflammation).

Benzoate of Mercury in Syphilis.—Dr. Gaucher, of the Hôpital Saint-Antoine, of Paris (*Gazzetta degli ospedali e delle cliniche*, May 5th), recommends from fifteen to thirty drops daily, for a month, of the following mixture:

℞	Benzoate of mercury	3¾ grains;
	Chloride of sodium (C. P.), Hydrochloride of cocaine, } each	$\frac{9}{10}$ grain;
	Boiled distilled water	1 ounce.

Intravesical Injection for Chronic Cystitis.—The *North American Practitioner* for May gives the following:

℞	Guaiacol	75 grains;
	Iodoform	1 drachm;
	Sterilized olive oil	3 fluidounces.

M. For injection into the bladder.

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MORE ABOUT THE ETHICS OF ADOLESCENCE.

DR. C. C. MAPES, of Louisville, has sent us, in connection with our leading article on this subject which appeared in the *Journal* for May 14th, two papers written by him and entitled Higher Enlightenment *versus* "Age of Consent," which were published in the *Medical Age* for February 25 and August 10, 1896. The line taken therein is substantially identical with that of Dr. Salter's paper and our comments thereon, but the subject is carried much further, and many collateral issues are dealt with in an able and, to us, very convincing manner.

Dr. Mapes, taking as his text the agitation for a raising of the "age of consent" in women, says: "What is needed primarily is not so much a law governing the age of consent as a higher standard of morality for both sexes, and an earlier and more comprehensive knowledge of the laws of procreation, together with a better understanding of the significance of the passions and emotions more or less directly dependent upon them, as well as the consequences that follow their transgression, gratification, or perversion."

The author points out that sexual appetency belongs equally to the male and the female, and in establishing legislative acts governing this question both must be considered, and the young man needs protection against the wiles of the designing *demi-mondaine,* who is often below the age of eighteen years, quite as much as the young woman against the vicious man. The author says that it seems incomprehensible how a fond, loving mother, who would never dispatch an adolescent daughter upon a mission fraught with innumerable physical dangers without first warning her fully and in detail, can yet allow the same daughter to pass from childhood to womanhood, to mingle with men of the world in what we term "society," where far graver dangers from a moral standpoint may be encountered, in utter ignorance of all physiological facts pertaining to herself as a human being, and without an adequate training in sexual morality. He affirms that it is far more exceptional for a woman attaining the *vita sexualis* who has been so trained, to yield to the wiles or threats of a would-be seducer than for one not so trained, and he adds: "Literally, the age of consent should mean the age of understanding. When *vita sexualis* has been established—*i. e.,* that period in the life of the adolescent female when evolutionary changes in the sexual apparatus make apparent the difference between male and female—she is practically as much a woman, and as capable of differentiating between right and wrong, when applied to sexual relations, as she ever will be, provided she has received the careful early training necessary to a complete understanding of her physiological being."

Dr. Mapes says, in reference to the mode of enlightening children: "I would suggest, however, that the first lessons be not deferred until the children have gained erroneous knowledge, if I may be allowed the expression, elsewhere; that they be taken into the garden among the plants and flowers; into the orchard, among the budding or blooming trees; into the fields or yards, among domestic animals: from each a valuable lesson may be deduced. Let them study the bud as it progresses, bursts, and unfolds its tiny petals; explain how and why the seeds grow when planted in the soil. Let them witness the procreative act between their animal pets, and tell them what it means, using as a comparison the observations you have made upon plant life. Let them follow with watchful care the pregnancy of their female pet to term, explaining to them the different stages of embryonal development. And, finally, let them witness the female undergoing the pangs of parturition, giving them the correct reason for everything in relation to cause and effect, answering their questions frankly, simply, and truthfully, although at the time they may appear of no material consequence."

Why, in these days of widespread knowledge, the traditional preference of the past for ignorance in sexual matters should still obtain is a mystery. Is it possible that it is only another phase of man's domination over woman, maintained through the centuries by keeping her in the Stygian darkness of ignorance from which she is only now beginning to emerge into the bright sunshine of a fuller knowledge of life and all that it means, and that it has its mainsprings deep down in an unworthy motive?

This question is prompted by the recollection of some remarks we read in a recent number of a French medical exchange bearing upon our present subject. The writer asked the question whether it would be preferable to marry one of these enlightened women, theoretically enlightened only he was careful to observe, or the traditional young French innocent, who is supposed to be in a state of absolute ignorance as to everything that will be expected of her in the marriage state. For his part, he says, he agrees with the practice in his country and prefers the latter; and for this preference he gives his reasons in a vivid picture of the delights of ravishing his young wife of all her little "innocent chastities" (of ignorance or illusion) one by one. To our mind, far from such a conception being conducive to any phase of morality, it is in itself an example of bestial licentiousness that degrades the "lawful" exercise of a legitimate and honorable impulse, an impulse that should provoke not shame and confusion, but tender devotion and *reverence* inexpressible, to the level of the brothel.

MINOR PARAGRAPHS.

UNDUE RESTRICTIVE LEGISLATION.

The *Public Health Journal* for May, under the title of A French Baby Law, comments upon a law lately adopted in France forbidding any one to give solid food of any kind to infants under one year without the written authority of a qualified physician. Also the use of long rubber tubes to feeding bottles is prohibited, because of the difficulty of keeping them sterilized. On this the *Journal* says: "These prohibitions seem like a serious invasion of parental authority, and doubtless they would be resisted in England or the United States, where the rights of parents are supreme." It appears to us that it is not half such a serious infringement of natural inherent rights as the marriage bill now before the Ohio legislature, which would make a physician's certificate a necessary preliminary of marriage. The law has nothing whatever to do with the enforcement of morality as such; the only inherent basis of legal interference with the actions of the individual is because they injure some other party in person or property. Now the children whom the French law strives to protect are injured in person by the injudicious actions of parents. But, as is shown in a paragraph published in the issue of this journal for May 28th, under the heading Tuberculosis and Marriage, the physician's veto may seriously injure two people who are willing, so far as they are themselves concerned, to submit to the possible danger the physician dreads, but which he can rarely if ever positively affirm beyond any possibility of error. No doubt it will be urged that this case stands on all fours with the "French baby law," inasmuch as it is the children of such parents whom it is desired to protect. But the babies on whose behalf the French law exercises its vigilance are already existent beings, while the children of the tuberculous or other marriage are *in posse* only, and may never be *in esse* at all. It seems to us that the tendency of all this legislation is to overlook what is really the primary and essential object of the union of a man with a woman, the first and chief great object and purpose of marriage (to which the begetting of children is secondary and accidental)—viz., the lifelong comradeship and association of two people who are each other's necessary complements, and without which union the life of each must be for ever incomplete.

THE SOLDIER'S SHOE.

In all armies it has been recognized by the ablest commanders that to a large extent success depends upon marching power, and marching power upon a suitable shoe. This subject is considered of such importance in England that the secretary of state for war, Lord Lansdowne (*Lancet*, May 7th), in addressing the assembled members of the medical profession at the Mansion House, in a speech devoted to matters of the highest import to the future of the army medical service, made the following remarks: "These campaigns are useful because they not only call attention to our strong points but also to our weak ones, and I am told that the Egyptian campaign has this one weak point which I ought not to ignore. I refer to the matter of the army boot. I am not going to admit that the army boot is a bad boot. I believe that it is a thoroughly serviceable article, but it appears that it does not resist the insidious effect of desert sands. In saying a word about the boots I must say a word about the wearers. General Gatacre in the march of his brigade to the front covered a distance of no less than a hundred and forty-two miles in five days, an average of over twenty-eight miles a day. That, as a feat of endurance, I think, is something for a British soldier to be proud of. In the future I hope we shall be able to discover a boot which even General Gatacre and the Egyptian desert will not be able to wear out." Equal distribution of pressure, free play for the foot, absence of friction on movement, imperviousness to sand and moisture, and a wide welt sole to furnish entire support of the foot in place of leaving it partially slung, as it were, by the uppers as though the foot were in the loop of a strap, are the great essentials for the soldier's shoe.

OPERATIVE SURGERY AT SMALL AND GREAT ALTITUDES.

Dr. Charles A. Powers, of Denver (*Western Medical and Surgical Gazette*, May), discusses the comparison of surgery at small and great altitudes. He advises the avoidance of operation where possible on persons who have recently come from the sea level, and especially if they show any cardiac weakness, owing to the increased action of the heart and lungs rendered necessary by the rarefied atmosphere. Pulmonary invalids, however, who are well at great altitudes frequently suffer if removed for operation, and in some cases such invalids might with advantage be removed from the sea to a higher level for that purpose. As to the anæsthetic, Dr. Powers finds that he is getting to place more and more reliance upon chloroform, ether being generally more irritating than in a moist climate, probably because of the moisture of ether vapor. Of two hundred and forty-eight operations in four years in Colorado, Dr. Powers employed ether in one hundred and fifty-nine, and chloroform in eighty-nine. One of his deaths he attributes to ether. The author's personal observations do not bear out the general idea that shock is more severe than at the sea level. Hæmorrhage in general is rather more profuse at great altitudes, particularly the oozing from the smallest vessels; bleeding, however, he considers a little better borne, and saline infusion less frequently demanded. The chance of asepsis he considers equal in either situation, with a proper technique. Operation wounds in tuberculous patients he considers heal more rapidly, and the healing is more permanent in Colorado, and he remarks upon the small proportion of pulmonary invalids in whom surgical tuberculosis is developed.

ITEMS.

Election of Dr. Osler to the Dignity of F. R. S.—There is probably no distinction so much coveted among scientific men as the Fellowship of the Royal Society of England. It is gratifying to learn from the *Philadelphia Medical Journal* for May 28th that Dr. William Osler, of Baltimore, has been selected for that much-coveted scientific distinction. Dr. Osler is one of a family of Canadian brothers who have all distinguished themselves in law, medicine, or finance respectively, and is a fellow of the Royal College of Physicians of London.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 28, 1898:

DISEASES.	Week ending May 21.		Week ending May 28.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	21	3	23	5
Scarlet fever	240	23	186	17
Cerebro-spinal meningitis	0	8	..	..
Measles	397	14	0	9
Diphtheria	184	34	429	19
Croup	3	3	8	1
Tuberculosis	160	144	220	155

Marine-Hospital Service Health Reports.—The following statistics concerning cholera, plague, and small-pox were received in the office of the supervising surgeon general during the week ending May 28, 1898:

Cholera—Foreign.

Madras, India	April 16–22	1 case,	2 deaths.

Plague.

Bombay, India	April 19–26		442 deaths.

Small-pox—United States.

New Orleans, La	May 14–21	1 case.	
New York, N. Y	May 14–21	1 "	
Carroll, Ohio	To May 11	6 cases.	

Small-pox—Foreign.

Antwerp, Belgium	May 1–7	2 cases.	
Prague, Bohemia	May 1–7	3 "	
Halifax, Canada	May 14–21	3 "	
Colombo, Ceylon	April 8–23	1 case,	1 death.
Hong Kong, China	March 26–April 2	7 cases,	7 deaths.
Newcastle-on-Tyne, England	May 1–7	2 "	
Bremen, Germany	April 13–30	1 case.	
Bombay, India	April 19–26		3 "
Madras, India	April 16–22		3 "
Odessa, Russia	April 23–30	5 cases.	
Moscow, Russia	April 23–30	9 "	1 death.
St. Petersburg, Russia	April 16–30	25 "	5 deaths.
Warsaw, Russia	April 23–30		12 "

Philadelphia Physicians off to Denver.—The physicians of Philadelphia have not forgotten the successful semicentennial meeting held in their city last year, and it is reported that a very large delegation will attend the forthcoming meeting in Denver. This will be a much-needed period of relaxation to many of those who are overworked, and who will enjoy the change to the utmost. On their way west it is proposed to spend a day with the Medical Society of Detroit, Michigan. Dr. William B. Atkinson, permanent secretary of the association, will have charge of the excursion. Among those who have expressed a willingness to go may be mentioned Dr. J. H. Musser, Dr. H. A. Hare, Dr. J. P. C. Griffith, Dr. B. A. Randall, Dr. E. Rosenthal, Dr. Edward Jackson, Dr. Judson Daland, Dr. L. F. Flick, Dr. George M. Gould, Dr. James Tyson, and Dr. I. Shoemaker.

Deaths in Philadelphia for the Week ending May 28th.—The total number of deaths for the week ending May 28th was 409, an increase of 26 over that of the previous week. Of the entire number, 121 were in children under five years of age. The different causes were: diphtheria, 10 deaths; typhoid fever, 8 deaths, and scarlet fever, 4 deaths. Last week there were from diphtheria, 20 deaths; typhoid fever, 7 deaths, and scarlet fever, 3 deaths.

The Basic Principles of Psycho-therapeutics.—Dr. A. C. Halpide (*Clinique*, May 15th), in a paper On Clinical Suggestion, sums up the *modus operandi* of psycho-therapeutics as follows:

"All cures through mental influence, no matter under what science or 'pathy' they appear, must be effected according to some underlying principle common to them all. The following have been stated to be the basic principles of psycho-therapeutics: (1) The mind is dual, consisting of an objective mind (the mind of the senses and reason), and a subjective mind (the mind of the intuition—the soul); (2) the subjective mind controls the functions, states, and sensations of the body; (3) the subjective mind is controlled by suggestion; therefore (4) affections of the functions, states, and sensations may be corrected by suggestion."

The London Hospital in Debt.—The London Hospital (*American Practitioner and News*, May), which is the largest hospital in London, and which treated over eleven thousand patients last year, is embarrassed by debt to such an extent that the authorities have had to sell no less than £30,000 of their investments in order to pay their way. It is expected that further investments to the extent of from £80,000 to £100,000 will have to be sold, as its present yearly income only amounts to £60,000, while its expenses are £70,000 and are on the increase. This hospital affords the best opportunity for surgical experience of any in London, owing to its proximity to the docks and large factories, where accidents are common.

Mount Sinai Hospital.—The appointment of Dr. Carl Koller as adjunct ophthalmic surgeon to the Mount Sinai Hospital has been announced.

Changes of Address.—Dr. John Dorning, to 111 West Forty-eighth Street, New York; Dr. Andrew H. Smith, to 18 East Forty-sixth Street, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 22 to May 28, 1898:*

Clarke, Joseph T., Captain and Assistant Surgeon, will proceed to Tampa, Florida, and report in person to Shafter, William R., Major General, U. S. Volunteers, for assignment to duty.

Harrell, Francis W., Acting Assistant Surgeon, U. S. Army, will proceed from Washington to San Francisco and report to the commanding general of the expedition to the Philippine Islands for duty.

Richards, William E., First Lieutenant and Assistant Surgeon, having reported to the surgeon general in compliance with orders, will proceed to Mobile, Alabama, and report in person to the commanding general, Fourth Army Corps, for duty in the field with the Fifth Cavalry.

The following-named officers of the medical department will proceed to San Francisco and report for duty with the expedition to the Philippine Islands: Lippincott, Henry, Lieutenant Colonel and Deputy Surgeon General; Owen, William O., Captain and Assistant Surgeon; Morris, Edward R., Captain and Assistant Surgeon; and Page, Henry, First Lieutenant and Assistant Surgeon.

The following assignments of officers of the medical department are made: Huidekoper, Rush S., Lieutenant Colonel, to First Army Corps, U. S. Volunteers; Girard, Alfred C., Lieutenant Colonel, to Second Army Corps, U. S. Volunteers; Hoff, John Van R., Lieutenant Colonel, to Third Army Corps, U. S. Volunteers; O'Reilly, Robert M., Lieutenant Colonel, to Fourth Army Corps, U. S. Volunteers; Pope, Benjamin F., Lieutenant Colonel, to Fifth Army Corps, U. S. Volunteers; Senn, Nicholas, Lieutenant Colonel, to Sixth Army Corps, U. S. Volunteers; and Maus, Louis M., Lieutenant Colonel, to Seventh Army Corps, U. S. Volunteers.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Fourteen Days ending May 26, 1898:*

Vansant, John, Surgeon. Granted leave of absence for two months from June 1, 1898. May 24, 1898.

Gassaway, J. M., Surgeon. To represent service at meeting of American Medical Association at Denver, Colorado, June 7 to 10, 1898. May 18, 1898.

Glennan, A. H., Passed Assistant Surgeon. Relieved from duty in Hygienic Laboratory, and directed to proceed to Tampa, Florida, for duty. May 13, 1898.

White, J. H., Passed Assistant Surgeon. To proceed to Delaware Breakwater Quarantine as inspector; then to report at bureau for special duty. May 20, 1898.

Kinyoun, J. J., Passed Assistant Surgeon. To install exhibit of service at Trans-Mississippi and International Exposition at Omaha, Nebraska. May 12, 1898. To represent service at meeting of American Medical Association at Denver, Colorado, June 7 to 10, 1898. May 18, 1898.

Brown, B. W., Passed Assistant Surgeon. Granted leave of absence for two days from May 29, 1898. May 26, 1898.

Rosenau, M. J., Passed Assistant Surgeon. Granted leave of absence for ten days from May 18, 1898. May 16, 1898.

Decker, C. E., Assistant Surgeon. Granted leave of absence for one month from May 24, 1898, on account of sickness. May 23, 1898.

Hastings, Hill, Assistant Surgeon. To represent service at Trans-Mississippi and International Exposition at Omaha, Nebraska. May 12, 1898.

Society Meetings for the Coming Week:

Monday, *June 6th:* American Medical Publishers' Association (first day—Denver); Colorado State Medical Society (first day—Denver); American Academy of Medicine (second day); New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, N. Y., Academy of Medicine; Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Alban's, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society.

Tuesday, *June 7th:* American Medical Association (first day—Denver); Massachusetts Medical Society (first day—Boston); American Medical Publishers' Association (second day); Colorado State Medical Society (second day); New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, N. Y., Academy of Medicine; Ogdensburgh, N. Y.; Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Societies of the Counties of Columbia (semiannual — Chatham), Franklin (semiannual), Herkimer (quarterly — Herkimer), Niagara (annual—Lockport), Saratoga (annual), and Yates (annual), N. Y.; Hudson (Jersey City) and Warren (annual), N. J., County Medical Societies; Androscoggin, Maine, County Medical Association (Lewiston); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

Wednesday, *June 8th:* American Medical Association (second day); Massachusetts Medical Society (second day); New York Pathological Society; American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital; Medical Societies of the Counties of Albany, Dutchess (semiannual—Poughkeepsie), and Montgomery semiannual—Fonda), N. Y.; Middlesex, N. J., County Medical Society (annual); Rhode Island County Medical Society (annual—Providence); Philadelphia County Medical Society.

Thursday, *June 9th:* South Dakota State Medical Society (first day—Mitchell); American Medical Association (third day); Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; New York Laryngological Society; Medical Societies of the Counties of Cayuga, Cortland (annual), and Fulton (semiannual), N. Y.; South Boston, Massachusetts, Medical Club (private); Pathological Society of Philadelphia.

Friday, *June 10th:* South Dakota State Medical Society (second day); American Medical Association (fourth day); Brooklyn Dermatological and Genito-urinary Society (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, N. Y.

Saturday, *June 11th:* Obstetrical Society of Boston (private).

Births, Marriages, and Deaths.

Married.

Blanchard—Rochel.—In Napoleonville, Assumption Parish, Louisiana, on Thursday, May 26th, Dr. Joseph A. Blanchard and Miss Agnes Rochel.

Bogart—Humphrey.—In New York, on Saturday, May 28th, Dr. Belmont De Forest Bogart and Miss Maud Humphrey.

Cooke—Cottin.—In Lewisham, Kent, England, Dr. Joseph Brown Cooke, of New York, and Miss Constance Rachel Cottin.

Crocker—Crawford.—In Mukwonago, Wisconsin, on Thursday, May 19th, Dr. Frederick S. Crocker, of Chicago, and Miss S. B. Crawford.

Died.

Bertine.—In Mount Vernon, N. Y., on Monday, May 30th, Dr. Louis C. Bertine.

Bradish.—In New York, on Friday, May 27th, Mrs. Helen Mary Bradish, wife of Mr. George Johnston Bradish, and daughter of Dr. John H. Hinton.

Chamberlain.—In Jersey, England, on Friday, May 27th, Mrs. Anna Fischer Chamberlain, wife of Dr. Frederick O. Chamberlain, of Paris, France, and daughter of Dr. Emil Fischer, of Philadelphia.

Flinn.—In Worcester, Massachusetts, on Thursday, May 26th, Dr. John Flinn, in the ninety-sixth year of his age.

Kennett.—In La Crosse, Wisconsin, on Friday, May 27th, Dr. William Lush Kennett, in the seventy-first year of his age.

Yeiser.—In New Orleans, on Thursday, May 26th, Dr. Philip Yeiser, in the eighty-second year of his age.

Book Notices.

Atlas der Syphilis und syphilisähnlichen Hautkrankheiten für Studirende und Aertze. Von Dr. med. Martin Chotzen, Spezialarzt fur Hautkrankheiten in Breslau. Heft I. Heft II. Pp. 29. Heft III. Heft IV. Pp. 30 to 54. Heft V. Heft VI. Pp. 55 to 77. Hamburg und Leipzig: Leopold Voss, 1897.

Chotzen's atlas is especially intended to facilitate the diagnosis between syphilitic and those non-syphilitic affections which bear more or less resemblance to each other. When complete it will consist of twelve parts containing one hundred and nine colored pictures on seventy-two plates. The author states that, with few exceptions, the sources from which he derived his material were his own cases and clinics. The contrasting of syphilitic and non-syphilitic affections of the skin is certainly a valuable plan, and the atlas would be very useful to every practitioner were the plates more effective in representing the diseases in question. In drawing and in coloring, however, they can not be said to be up to the standard set by other atlases recently brought out here and abroad. The accompanying text consists of a clinical history of the case from which the illustration was made, and to each are appended the main points which distinguish it from other types of disease. The plates still to appear will, it is hoped, come nearer to those in the first number, which are the best so far.

Mammalian Anatomy. A Preparation for Human and Comparative Anatomy. By Horace Jayne, M. D., Ph. D., Director of the Wistar Institute of Anatomy and Biology, and Professor of Zoology in the University of Pennsylvania, etc. Part I. The Skeleton of the Cat; its Muscular Attachments, Growth, and Variations compared with the Skeleton of Man. With over Five Hundred Original Illustrations and Many Tables. Philadelphia: J. B. Lippincott Company, 1898. Pp. xix–816.

One is struck at once with the great care that has been expended on this book. Nothing has been spared in its getting up to make it attractive. The type is large, the paper is heavy, and the original cuts are excellent and numerous.

It is unnecessary to read far to appreciate how great an amount of labor and time must have been devoted by the author to make the book what it is.

A glance is sufficient to show that it is an innovation. Although its title would lead one to infer that it was on general mammalian anatomy, it is really on the anatomy of the cat, with enough human anatomy to enable one to make a comparison.

The anatomy of none of the lower mammals has hitherto been described with such detail and care as that of the cat. In this respect the book before us challenges comparison with most human anatomies.

Part I, of which this volume consists, is a most excellent treatise on the osteology of the cat.

The purpose of the author in compiling the book was to make it a preparation for human as well as comparative anatomy.

As preparatory to the study of human anatomy it is not an unqualified success. The very detail which is so appropriate in books of its class unfits it for the beginner in any branch of anatomy. What student, after mastering twenty-six pages devoted to the labyrinthine intricacies of the feline ethmoid, would have the hardihood to pursue his studies further?

It is these very details in human anatomy that make it so difficult and devoid of interest to the average student.

As the author states, it is well for the student to know one anatomical form minutely and exactly. It is, however, not necessary to know two forms in this way. Thus it seems that much of the book is superfluous to the beginner in human anatomy, but may be of value to the student of comparative anatomy, which deals largely in generalities.

The first chapter of the book is devoted to the explanation of anatomical terms, to methods of preparation, and to a general description of bones.

In the remainder of the book each bone is minutely described, even the muscular attachments being given, which seems to be unnecessary, especially as, apparently, no description of the muscles is to follow.

Following the description of the cat bone is an indifferent description of the corresponding human bone; and some comparisons are made, but the important differences or resemblances are hardly sufficiently emphasized.

With the description of each bone a table of the variations in the measurements of a large number of bones is given. As these measurements are of bones taken at random, their value is not very evident.

Regional descriptions are followed out in the same manner as those of the individual bones. The description of the skull is profusely illustrated by excellent cuts of different sections and regions.

The illustrations are, in fact, a marked feature throughout the book, with the exception of those of the human bones, which are borrowed from other works and are miserable. The drawings of the cat bones represent the objects enlarged to twice the natural size.

The volume before us is devoted wholly to osteology, and is to be followed by volumes on histology and embryology. We await them with much interest.

Selected Essays and Monographs. Translations and Reprints from Various Sources. London: The New Sydenham Society, 1897. Pp. 3 to 436.

This volume contains a varied assortment of essays of great interest and importance, especially the one entitled Observations on Yaws and its Influence in Originating Leprosy, by J. Maxwell. As corollaries to it, the other essays on yaws by Walbridge and Daniels may be mentioned, as well as the Contribution to the Clinical and Bacteriological Study of Brazilian Frambœsia, or Bonbas, by Breda, and the one on Polypapilloma tropicum (Frambœsia), by Charlonis. These may be regarded as the most interesting in the volume, the others dealing with subjects more generally treated of in journal literature, though bringing out many points and facts worthy of thought and careful consideration. It would be difficult to find a more definite and satisfactory review of the subject of syringomyelia than is to be obtained from Brühl's essay, while the work of Fournier in connection with syphilis and its effects is too well known not to make everything he writes of more than ordinary importance. The article on pemphigus vegetaris, by Professor Neumann, is worthy of careful study, as well as the one on the same subject by Köbner, who devotes himself as well to the diagnosis between other bullous eruptions of the skin and mucous membranes and syphilis. Osler's article On the Visceral Complications of Erythema Exudativum Multiforme is of unusual interest, because so little is known on the subject, while Spheherd's report of a Remarkable Case of Purpuric Eruption ending in Gangrene and apparently Due to Sodium Salicylate will open up to the reader the little-considered question of drug eruptions and their possible results. Sleep in its Relation to Skin Diseases is the title of an article by Buckley, in his usual vein, and the volume closes with a valuable article on the subject of The Relation between Treatment in the Early Stage and Tertiary Syphilis. The entire book is replete with valuable information, and to any one interested in increasing his store of knowledge it is of more than usual interest, inasmuch as in a concise form it brings him face to face with a variety of questions which should be understood by all physicians, for they present themselves more frequently than is generally supposed.

John Hunter, Man of Science and Surgeon (1728–'93). By Stephen Paget, M. A., F. R. C. S. New York: Longmans, Green, & Co., 1897. Pp. 9 to 272. [Price, $1.25.]

William Harvey. By D'Arcy Power, F. S. A., F. R. C. S. Eng., Surgeon to the Victoria Hospital for Children, Chelsea. New York: Longmans Green, & Co., 1897. Pp. xi–283. [Price, $1.25.]

Sir James Young Simpson and Chloroform (1811–'70). By H. Laing Gordon. New York: Longmans, Green, & Co., 1898. Pp. xii–233.

To say that the history of medicine has been neglected is but trite and, yet, while the fact itself is obvious, it is not altogether an easy thing to account for it. Surely the progress and development of things medical have been sufficiently vivid and eventful to make their chronicling and rechronicling matters of interest as history pure and simple, apart from any more technical considerations which, however learned, have not always so great a power to interest. It is not that there are lacking medical histories of value, but for the greater part they are unsatisfactory, some because they attempt too much and give too little, and others because they are ill written and so can not even attract the attention, to say nothing of retaining it. In no art, indeed, is this poverty so apparent as in medicine, and in that very word art may lie the reason for the lack, for later generations of medical men have gradually come to regard their calling as a science only, forgetting apparently that it is also and always must be an art. The urgency is ever for development and technical progress, and in our pursuit of the future we seem to have fallen into forgetfulness that medicine has ever had a past. This is clearly unfortunate, for the history of medicine, like other history, is largely self-repetition, and he who is not ignorant of the history of the past is far more likely to contribute to the making of history in the future.

That we of the present time are neglectful of medical history we have said before now, and the truth of the statement is sufficiently proved by the scantiness or entire lack of instruction on this subject in our medical schools. The medical man may, indeed, inform himself upon medical history if he has the time and the inclination and can find the books, but it is entirely a matter of self-education, and perforce crude at that. Of late, it would seem, some of us have realized these things, for now in certain schools instruction is given in medical history, and within the last few months works upon medical history have begun to appear, which, it may be, in time will dispel the prevailing ignorance of the subject and the very general lack of interest in it. Among these works the most conspicuous are those constituting a series which bears the title *Masters of Medicine.* This series, to judge from the three volumes we have received, will when completed afford the reader a collection of biographical monographs of very great value, and in the aggregate a medical history of an exhaustiveness which would otherwise be unattainable.

Apart from these general considerations, however, there are qualities in the books now before us which make them unusual and, if repeated in the books yet to come, will make the set unique. The chief of these are a literary quality and an arrangement which carry the reader back, as it were, to the time of which he is reading. This vividness of the text is partly due to the skillful employment of quotations from sources contemporary with the subject and chiefly his own words, but beyond this there is in each work so great a literary merit as to attract and to charm the reader in no ordinary degree. A criticism of such works must of necessity be general, and comparison of the several volumes is not called for. Even were it desirable, however, it could scarcely be given, for there is an evenness about the three which we sincerely hope may be maintained in the volumes to come. The plan of this series is one of unqualified excellence, the execution of the first three volumes is in no ordinary degree meritorious, and the completion of the series will be a satisfaction to thoughtful medical men.

Orthopædic Surgery. By James E. Moore, M. D., Professor of Orthopædia and of Clinical Surgery in the College of Medicine of the University of Minnesota, etc. With One Hundred and Seventy-seven Illustrations. Philadelphia: W. B. Saunders, 1898. Pp. 13 to 351.

The author had a difficult task before him in writing a book which should be at once a "text-book for students and a reference book for general practitioners."

The requirements in a book for these two classes are so different that it is hard to see how justice can be done to both. In steering the middle course the author has been fairly successful. Any work, however, which is designed for use by students of medicine should contain a fuller and more complete outline of the several orthopædic diseases. To give a complete treatise on any particular affection would be, of course, unnecessary and impossible, but, we believe, several chapters could be improved—notably that on torticollis—by going more completely into the pathology of the several forms of the affection.

As to treatment, the author has aimed to give only those forms of treatment which in his own hands have proved most successful. This seems to us to be a very wise plan, but, inasmuch as he believes that the surgeon operates too frequently and the orthopædist seldom operates, the specialist will be at a loss to know to which class he himself belongs. That the orthopædic surgeon has of late years become less of a specialist, pure and simple, and has widened his field into branches which formerly were considered to belong to general surgery, is becoming more and more evident. To quote from the preface, "the simplest kinds of apparatus, such as can be most readily applied by the general practitioner, are recommended." The application of apparatus is undoubtedly the most important part of the treatment of most orthopædic diseases, and it can be learned only by long practical experience; that the general practitioner can acquire this knowledge from books is extremely doubtful.

The reader will find much that is valuable in the chapter on Pott's disease, though the picture on page 74 represents a plaster jacket which would be totally inadequate. The cuts are, as a rule, excellent and add greatly by their clearness to the descriptions of the deformities treated of in the text.

International Clinics: A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynæcology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology, and Specially Prepared Articles on Treatment. By Professors and Lecturers in the Leading Medical Colleges of the United States, Germany, Austria, France, Great Britain, and Canada. Edited by Judson Daland, M. D. (University of Pennsylvania), Philadelphia, Instructor in Clinical Medicine and Lecturer on Physical Diagnosis in the University of Pennsylvania, etc.; J. Mitchell Bruce, M. D., F. R. C. P., London, England, Physician to and Lecturer on the Principles and Practice of Medicine in the Charing Cross Hospital; and David W. Finlay, M. D., F. R. C. P., Aberdeen, Scotland, Professor of Medicine in the University of Aberdeen, etc. Volume IV. Seventh Series. 1898. Philadelphia: J. B. Lippincott Company, 1898. Pp. ix–363.

Any remarks by the well-known authority Boas, of Berlin, on stomach disorders are sure to be valuable. In a clinical lecture on the present position of the diagnosis of gastric disease by chemical investigation he reviews the work which has previously been done in this line of research and gives the present status of its usefulness in diagnosis. He says of hydrochloric acid: "Of itself alone, despite the almost numberless theories that have been built upon it, its presence or absence is of no special diagnostic importance, and is certainly not pathognomonic of any affection or class of affections." He lays down three maxims: "1. The presence of free hydrochloric acid speaks against carcinoma, though, of course, only when other symptoms are lacking, too. If there is an epigastric tumor, with emaciation and beginning cachexia, then it is of no significance. 2. The absence of free hydrochloric acid establishes the diagnosis of cancer if two of the classical symptoms of cancer, emaciation and tumor, are present. It makes the diagnosis of cancer extremely probable if, besides beginning cachexia, there are symptoms of stenosis of the pylorus running the clinical course that a cancer in this region usually does. 3. For the diagnosis of gastric ulcer from cancer, the presence of free hydrochloric acid where no tumor can be discovered speaks for ulcer, while the failure to find free hydrochloric acid is against the diagnosis of ulcer."

D. D. Stewart, of Philadelphia, furnishes an interesting clinic on the blue line in the gums in lead poisoning. The author has found it present in many cases where lead-poisoning had not been suspected, giving no symptoms except vague cerebral disturbances, or the so-called saturnine encephalopathy. The lead is deposited in the form of lead sulphide as small black dots near the margin of the gums. He believes that the lead always gains entrance into the gums through the blood and not—as is believed by many French writers—directly from the mouth.

Professor Berger, of Paris, reports a case of traumatic peritonitis caused by severe blows on the abdomen causing an effusion of blood into the abdominal cavity, either between the layers of the mesentery or in the meshes of the great omentum.

Diseases of Women. A Clinical Guide to their Diagnosis and Treatment. By George Ernest Herman, M. B. Lond., F. R. C. P., Obstetric Physician to and Lecturer on Midwifery at the London Hospital, etc. With Two Hundred and Fifty-two Illustrations. New York: William Wood and Company, 1898. Pp. xvi–886. [Price, $5.]

Our English cousins have not been prolific contributors to the systematic literature of modern gynæcology, but such classics as the works of Sir Spencer Wells, Tait, Hart and Barbour, Doran, Bland Sutton, and a few others are sufficient proof that when they have a message it is well worthy of consideration. The plan of the present work is a novel one, as is indicated by its title, and, while the substance is in many respects entirely creditable to the author, we have failed to be convinced, after a careful reading of the entire book, that it is the best way to approach such a subject as gynæcology. The medical bias of the author is constantly shown, but gynæcology is to too great an extent a surgical science to be effectively treated, in our judgment, upon a medical basis.

If the work was devoted to diagnosis alone, such a plan would have great advantages, but the treatment of the diseases of women, being to a great degree surgical, calls for the discussion of surgical methods, and, the field being now so extensive, a single method, even the best one, would hardly suffice for a work of this magnitude.

No fault is to be found with the elucidation of the pathological conditions which are discussed. The author understands his subject, and we are entirely satisfied with his statement that the work is based upon clinical experience, even were his reputation less brilliant and well known than it is. We are also satisfied, however, that further consideration will reveal to him that the division of his chapters, or many of them, by symptoms is not the best, for it leads to repetitions and not infrequently to confusion on the part of the reader. The following examples from the chapter on nomenclature will illustrate: chronic pelvic pain, conditions resembling prolapse, hæmorrhage with a rounded tumor in the vagina, leucorrhœa (five chapters), swellings of the vulva, too frequent micturition, and painful defæcation. We quite agree with him in his opinion that excessive attention has been bestowed upon so-called lacerations of the cervix uteri and perinæum, and, again, in his judicious remarks as to the fallacies of many of the statistical tables of operative procedures.

The illustrations, so important a part of a work of this character, are good, most of them illustrating pathological conditions.

References are very frequent to the work of his teacher, Matthews Duncan, and his regard for the worth of that acute observer is well founded. The style is direct, often breezy; there is no mistaking his meaning.

There is very much to be commended and approved of in this work, but we hope the author will change some of the features in its arrangement in his next edition.

Flint's Encyclopædia of Medicine and Surgery. By Various Writers. Arranged upon a New System, which Embodies the Methods of Treatment Employed by Eminent Practitioners of Medicine. Compiled under the Direction of the Publishers, and including the Writings of John Abercrombie, T. D. Ackland, William Anderson, E. Clifford Beale, C. E. Beevor, Henry Trentham Butlin, George W. Callender, James Cantlie, William Carter, John Chiene, J. L. Clark, Sidney Coupland, Harrison Cripps, John Croft, W. Cayley, Edgar Crookshank, David W. Finlay, T. Colcott Fox, J. K. Fowler, William Gay, W. B. Hadden, G. de H. Hall, G. E. Herman, T. W. Hime, T. Holmes, E. O. Hopwood, Leopold Hudson, Jonathan Hutchinson, C. B. Keetley, Percy Kidd, W. Lang, Arthur P. Luff, Robert Maguire, Howard Marsh, Angel Money, Malcolm Morris, J. W. Mott, C. Mansell Moullin, A. T. Myers, Isambard Owen, Herbert W. Page, W. Pasteur, F. G. Penrose, Augustus J. Pepper, J. P. Pick, W. S. Playfair, A. C. Post, J. J. Pringle, George Revington, Frederick T. Roberts, Robert Saundby, Henry Sewill, C. E. Shelley, Heywood Smith, T. Smith, Sir William Stokes, J. Bland Sutton, B. F. Underwood, W. Hale White, Walter Whitehead, Joseph Wiglesworth, and Dawson Williams. Assisted by Frederick F. Eve, G. P. Field, Victor Horsley, Henry Juler, William MacCormac, H. M. Murray, and W. E. Steavenson. Second Revised Edition. J. B. Flint and Company, 1898. Pp. 17 to 1558.

Owing to the previous notice of the volume at the time of the publication of the original edition, and on account of the magnitude of the work itself, a comprehensive review is now neither necessary nor desirable. The present edition consists of 1558 closely printed pages —at times carelessly printed—arranged, as to subject, in the regular alphabetical order with more or less complete cross-references. Nearly seventy authorities compose the list of authors whose writings on the various subjects have been compiled "under the direction of the publishers." While the work is not new, and while the subjects are not treated in such a way as to deserve much favorable comment, yet the volume will serve the encyclopædic purpose in a large degree. A tendency to somewhat loose therapeusis is noticeable, though it should not affect greatly the value of the edition for what it is intended to be.

BOOKS, ETC., RECEIVED.

Clinical Lectures on Diseases of the Heart and Aorta. By George William Balfour, M. D., LL. D., F. R. C. P., F. R. S., Consulting Physician to the Royal Infirmary, Edinburgh, etc. Third Edition. London and New York: The Macmillan Company, 1898. Pp. xxi–479. [Price, $4.]

Text-book of Medical Jurisprudence and Toxicology. By John J. Reese, M. D., Late Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc. Fifth Edition. Revised by Henry Leffmann, A. M., M. D., Ph. D., Professor of Chemistry and Toxicology in the Woman's Medical College of Pennsylvania, etc. Philadelphia: P. Blakiston, Son, & Co., 1898. Pp. xvi–17 to 645. [Price, $3.]

A Manual of Hygiene and Sanitation. By Seneca Egbert, A. M., M. D., Professor of Hygiene and Dean of the Medico-chirurgical College of Philadelphia, etc. Philadelphia and New York: Lea Brothers & Co., 1898. Pp. viii–17 to 368.

A Laboratory Text-book of Pathology for the Use of Students and Practitioners of Medicine. By Horace J. Whitacre, B. S., M. D., Demonstrator of Pathology in the Medical College of Ohio (University of Cincinnati). With One Hundred and Twenty-one Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1898. Pp. viii–9 to 172. [Price, $1.50.]

Bäder-Almanach. Mittheilungen der Bäder, Luftkurorte und Heilanstalten in Deutschland, Oesterreich, der Schweiz und den angrenzenden Gebieten. Für Aerzte und Heilbedurftige. Siebente Ausgabe. Mit Karte der Bäder, Kurorte und Heilanstalten. Berlin: Rudolf Mosse. Pp. 510.

Transactions of the American Association of Obstetricians and Gynæcologists. Vol. X. For the year 1897.

Notes on Vaccine Rashes. By Robert W. Hastings, M. D., of Brookline, Massachusetts. [Reprinted from the *Annals of Gynæcology and Pædiatry.*]

Human Food Laws. By Robert W. Hastings, M. D. [Reprinted from the *Journal of the American Medical Association.*]

The Relation of the Medical and Legal Departments of Railways. By L. E. Lemen, M. D., of Denver. [Reprinted from the *Journal of the American Medical Association.*]

The Use of Quinine in Malarial Hæmoglobinuria. By Albert Woldert, M. D., of Philadelphia. [Reprinted from the *Medical News.*]

Brief Mention of Neurological Cases Successfully Treated. By Irving C. Rosse, M. D., of Washington. [Reprinted from the *Virginia Medical Semi-monthly.*]

A Contribution to the Study of the Dynamics of the Ocular Muscles. By J. M. Banister, M. D., of Fort Leavenworth, Kansas. [Reprinted from the *Annals of Ophthalmology.*]

The Prevention of Yellow Fever and the Quarantine of Houses to Stamp it Out. By Stanford E. Chaillé, M. D., of New Orleans. [Reprinted from the *New Orleans Medical and Surgical Journal.*]

Tuberculosis of the Tonsil. By Dr. Seymour Oppenheimer, of New York. [Reprinted from the *Medical News.*]

Procedures recommended for the Study of Bacteria, with Especial Reference to Greater Uniformity in the

Description and Differentiation of Species. Being the Report of a Committee of American Bacteriologists to the Committee on the Pollution of Water Supplies of the American Public Health Association.

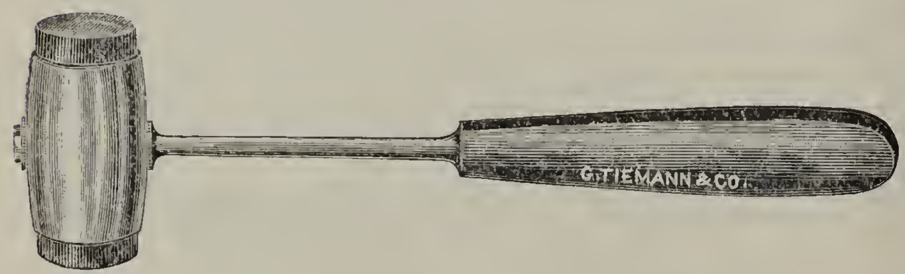
New Inventions, etc.

A NEW BONE MALLET.

By J. S. Wight, M. D., LL. D.,

PROFESSOR OF OPERATING AND CLINICAL SURGERY AT THE LONG ISLAND COLLEGE HOSPITAL.

In order to straighten a crooked thigh bone of a ten-year-old girl, I used an ordinary osteotome and a lead mallet. The bone was very hard, and when the work was finished the mallet was so deformed as to be unfit for further use. I saw Mr. Stohlmann, of Tiemann & Co., and requested him to make me a mallet of lignum vitæ and incase it in a hollow metal cylinder so that its ends would project beyond those of the cylinder. The mallet was to have the same weight as the ordinary lead one. The length of the mallet is about two inches and a half; its diameter is about an inch and a quarter. The handle is a little more than nine inches in length, and is fixed firmly in the head of the mallet, which it perforates. The part of the handle to be grasped by the hand is made of hard rubber. I have used the mallet a number of times for cutting very hard bone, and there is no special marking of its face. In an osteoplastic operation, in which I preserved the kneepan and put it against the sawed end of the femur, I used this mallet to drive a nail through the kneepan into the bone stump. It is impossible to find any indentations in the face of the mallet. Boiling, for sterilization, does not injure the mallet in any way. This mallet does not slip as it strikes the head of the osteotome. It gives a very powerful blow. It is a superior instrument. A good idea of it can be obtained from the accompanying cut. If the face of the mallet gets injured, it can be ground off, restoring it to a good working form.



Miscellany.

The Commencement of the Medico-chirurgical College, Philadelphia, was held on Saturday, May 21st. The class, consisting of one hundred and thirteen, was the largest that was ever graduated from the college.

The officers of the alumni chosen are: Professor John B. Shoemaker, president; Dr. Henry Fisher, Dr. Matthew Broadwood, and Dr. Wetterson, vice-presidents; Dr. George W. Pfrome, secretary; Dr. Emanuel Gans, treasurer.

Homœopaths want Recognition in the Army and Navy.—At a recent meeting of homœopathic physicians of Philadelphia (Germantown), the subject of the apparent discrimination in the army and navy against homœopathic physicians was much discussed and the reasons were asked for. The matter had been referred to Governor Hastings, and it is said that he had explained that all the medical officers were appointed first by the colonels of regiments and that such applicants were subsequently confirmed by the adjutant generals. The governor further stated that if any homœopathic physician secures an appointment by any colonel of a regiment and the applicant is questioned on any point he will then investigate the case. It was stated that a case had occurred in which Dr. William F. Satchell (homœopath) had endeavored to enlist in the Pennsylvania Naval Reserves, and applied to Commander Muckle, who stated that the naval reserve was a purely "old school" organization. Dr. Satchell then applied at the recruiting office and was told (according to report) that the disciples of Hahnemann were eligible as privates in the hospital corps, but to enlist as a surgeon or assistant surgeon one must be "old school."

Dr. Thomas H. Hollinshead, it is further stated, applied for a commission to Surgeon-General Van Ripen, who informed him that there was no chance whatsoever for him to obtain such an appointment, as there were many applicants ahead, but that he was in favor of having a few homœopaths in the active service, as it would be a great saving to the government in doing away with a large drug bill, since the graduates of that school cured almost entirely by faith.

From all this oppression (?) the different societies representing that faith have sent representatives from different parts of the country to consult the President. The contingent from Philadelphia recently visited Washington and were presented to the executive by Senator Penrose and General Bingham. The President received the delegation cordially and listened while Dr. Christine, the spokesman of the delegation, told of their troubles and stated that, if no law prevented, it was the desire of homœopaths to be placed upon an equal footing with graduates of other schools of medicine. After the interview the President stated that he had looked the matter up and found no law to prevent them from becoming surgeons and assistant surgeons in the army or navy, provided they passed the examination. The President promised the homœopaths there would be no discrimination.

Philadelphia may Guard its Water Supply.—An ordinance has been recently prepared by members of the city council relative to the protection of the city water supply from defilement by the Spaniards. Philadelphia does not procure its water from one source or store it in one reservoir.

The Seventy-fourth Annual Commencement of Jefferson Medical College was held on May 14th at the Academy of Music. Fifty students of medicine received their degree. This class was the first one to graduate under the four-year course.

Milk and Diphtheria.—At a recent meeting of the board of health of Philadelphia Chief Medical Inspector Taylor presented his weekly report, which stated that for the week there had been eighty-six cases of diphtheria in the city, causing twenty-two deaths. He added that the majority of these cases had been reported from Germantown (a suburb) and thought that the epidemic was caused by infected milk, as reported in the *Journal* recently. During this same period there were sixty-one cases of scarlet fever, with seven deaths, and sixty cases of typhoid fever, with nine deaths. The number of cases of typhoid was an increase of eight new cases over the previous week.

The Further History of a Case of Precocious Menstruation, recorded by Dr. Johann W. Irion, of Fort Worth, Texas, in the *Journal* for August 15, 1896, was reported by him at a meeting of the North Texas Medical Association held on May 5th.

Dr. Irion said: "Now that more than three years have elapsed since the birth of the child, I think that a report of the case up to date will be of interest to you. The child has enjoyed exceptionally good health and has developed rapidly. Mentally she is very active, and physically robust. The breasts have developed slowly but perceptibly, the nipples are well formed, the mons Veneris is rounded and prominent, but there is no growth of hair on the pubes. She has missed two periods and exhibited all the nervous phenomena of an adult, as she did when she missed the third period, in December, 1895. The mother attributes the missing of the periods to a cold bath given the day before the period should have occurred. The menstrual flow occurs with regularity, without pain, and continues for four days. The day before the flow begins and on the first day of the flow she is frequently irritable; otherwise she is a normal child in every way, showing the wishes and delights of other children of her age."

Laparotomy as Described by a Novelist.—The opportunities that a more or less commonplace surgical operation affords for a newspaper story are too familiar to be a matter for serious comment. Various authors have utilized such procedures to augment the realism of their narratives, and the literary value of such detailed reports has depended upon the observation and vocabulary of the writer who is likely to edify if not to instruct a professional reader.

In a recent number of the *New York Herald* a letter was published from its correspondent, Mr. Richard Harding Davis, one of the younger American writers, who described a laparotomy for gunshot wound performed by one of the clever young operators of the naval medical corps. It is scarcely necessary to state that Assistant Surgeon Spear, who is the son of a well-known and distinguished medical officer of the navy, was in no way responsible for the unexpected prominence given to his very successful operation.

"I received a cablegram while I was on the *New York*," says Mr. Davis, "asking me to relate how her crew behaved in the action at Matanzas. I did not answer it because I thought there were a few things the American people were willing to take for granted, and because the bombardment at Matanzas was no test of the crew's courage, but of its marksmanship. There is a story, however, that illustrates the spirit of the men on the *New York*, and which answers, I think, any queries any one may make as to how they might behave in action.

"Taylor, a young gunner's mate, was shot on April 26th by a revolver. It was an accident, but it is possible he was more seriously hurt than were any of the six wounded men who went through the seven hours' battle at Manila, for the ball passed through his arm and into his right side, and came out nearly a foot away under his left armpit. Assistant Surgeon Spear said that if he had tried to dodge the vital parts in Taylor's body with a surgical instrument he could not have done it as skillfully as did the bullet, which was neither aimed nor guided by a human hand. It was this junior surgeon Spear who performed the operation, while the fleet surgeon, Dr. Gravatt, watched him and advised. It was a wonderful operation. It lasted nearly two hours, and it left the layman uncertain as to whether he should admire the human body more or the way a surgeon masters it. What they did to Taylor I can not tell in technical language, but I know they cut him open and lifted out his stomach and put it back again and sewed him up twice. He could not get wholly under the influence of the ether, and he raved and muttered and struggled, so that at times two men had to hold him down. Just before the surgeon began to operate the boy gave the chaplain his mother's address, and reached out his hand and said, 'So long, chaplain.'

"He was a typical New York boy. He came from Brooklyn, but nevertheless he looked and talked and thought as you would expect and hope that an apprentice from the St. Mary's training ship would look and talk and think. His skin was as tough as a shoe which had remained long in the salt water, but it was beautifully white and spotless, like a girl's, and the contrast it made with the skin that the sun and wind had tanned was as sharp as the stripes on the flag.

"When the second part of him was sewn up Taylor was carried to a cot and lay there so still that I thought he was dead. They had to inject strychnine into his veins to keep his heart beating. But a minute later he opened his eyes and turned them to the operating table, where, he remembered in a half drunken way, they had placed him two hours before. His eyes were dazed with the ether, his lips were blue and his face was a ghastly gray. He looked up at the four figures leaning over him, their bare arms covered with his blood, and back at the operating table that dripped with it. What had happened, who had attacked him, and why, he could not comprehend. He did not know that parts of him which had lain covered for many years had been taken out and held up naked, palpitating and bleeding to the ruthless light of the sun, to the gaze of curious messmates crowded at the end of the sick bay, that these parts of himself had been picked over and handled as a man runs his fingers over the keys of a piano, and had then been pushed and wedged back into place and covered over as one would sew a patch on an old sail, to lie hidden away again for many, many years more, let us hope.

"He only knew that some outrageous thing had been done to him—that he had been in a nightmare, in hell—and to Taylor, still drunk with ether, these men whose wonderful surgery had saved his life were only the bloody assassins who had attempted it and failed.

"He was pitiably weak from loss of much blood, from the shock of the heavy bullet that had dug its way through his body, from the waves of nausea that swept over him, but the boy opened his eyes and regarded the surgeons scornfully. Then he shook his head from side to side on the pillow and smiled up at them.

"'Ah, you'se can't kill me,' he whispered. 'I'm a New Yorker, by God! You'se can't kill me.'

"That is the spirit of the men who sunk the Spanish fleet at Manila, and of the crew of the warship that is named after the city of New York."

The War Number of the Monthly Cyclopædia of Practical Medicine.—The *Monthly Cyclopædia of Practical Medicine* for May devotes the entire number to the consideration of various medical matters that have a direct bearing upon the Cuban expedition. An editorial on Malaria and the Cuban Campaign draws a vivid picture of the parallel between the United States operations against Cuba and the historic French expedition against Madagascar. It points out that the two islands may geographically be called "sister isles"; for while the former is centrally traversed by the twenty-second degree of south latitude, the latter is similarly traversed by the same degree of north latitude. Both islands lie to the southeast of the mainland; both are surrounded by warm ocean currents; both are paradises of fertility; both are studded with hotbeds of vegetable decaying matter, marshes, and swamps. The correspondence is further emphasized between the respective forces employed, the French foreign legion corresponding to the United States regulars, while the French line regiments, consisting of short-term conscripts whose service had been spent in France, were the counterpart of the United States volunteers. The author, Dr. E. M. de Sajous, was an eye witness of the departure of these troops from Paris in all the pomp and circumstance of war, and describes vividly their buoyant exuberance and their "fit" condition as it would seem to endure anything; and paints in sombre colors the return of the remnants of the same victorious army some months later, as "a handful of gaunt, yellow 'convalescents,' several of whom were soon to follow the nine hundred and odd comrades who had preceded them to the other world. The human antagonist had been a myth; the subtle earth and water-borne enemy had done it all."

The high mortality among the French troops is attributed by the author to three chief factors: 1. Friction between the army and navy causing vexatious delays and undue retention of troops in malarious districts. 2. The entire subservience of the sanitary to the military needs of the expedition. 3. Inadequate prophylactic measures as a result of 1 and 2. The first two factors he considers presumably absent in the present Cuban expedition, but as regards the third he asks whether we are sure that adequate means of prophylaxis are being provided. Some doubt appears in his mind; and is based upon the consideration that "since bacteriology has invaded the very confines of pathology, experimental work has overshadowed clinical experience, and what the laboratory does not prove, what experiments do not show, is often refused in practice."

The following practical prophylactic measures are counseled in the conclusion of this admirable and exhaustive paper:

1. To avoid contamination through the respired air and inoculation by insects: Unacclimatized men, white or black, should not be employed for the digging of trenches, the erection of defenses, or any other kind of work involving upturning of the soil. Natives should alone be utilized for this work. High ground should be selected for camp sites, windward, if possible, of any swamp, pool, stream, etc., that may be in the neighborhood. The men should sleep as high above the ground as possible (not less than two feet and, if practicable, from twelve to fifteen feet) and be provided with mosquito netting. While crossing malaria-laden forests, glens, lowlands, swamps, etc., the men should be ordered to avoid talking.

2. To avoid contamination by water: When water from malarial regions is alone available for drinking purposes, it should be filtered or, preferably, sterilized by boiling. Bathing should not be permitted when water from a malarial region can alone be obtained, but washing of the body with such water is permissible, provided carbolic-acid soap be employed.

3. To prevent the development of malarial parasites in the blood: Four grains of hydrochlorate of quinine should be administered morning and evening during meals as prophylactic, beginning two days before the malarious region is reached.

4. To conserve the general powers of resistance of the economy: Regular and frequent periods of rest should intersperse long marches. Drenching and wading through streams should be avoided when possible. Varied and adequate food should be furnished. The head should be so protected as to secure a maximum amount of coolness under all degrees of temperature, a headgear, such as the solar *tepé*, being furnished for this purpose.

The subject of quinine and its substitutes naturally occupies a very important part of the journal's space. As to quinine, the author considers the basic quinine hydrochloride to be the best preparation, and this should be given in doses of four grains night and morning. Small doses are uncertain in their effects; large ones apt to be hurtful. He cautions against the use of compressed preparations and prefers pills made with a soluble excipient, or gelatin capsules. The taking of the quinine *during meals* is also strongly emphasized as obviating all intolerance.

The substitutes for quinine are divided into two groups, representing their order of value as determined by the evidence. In the first group detailed accounts are given of ammonium chloride, apiol, arsenic, boneset (*Eupatorium perfoliatum*), calaya (*Anneslea febrifuga*), carbolic acid, chamomile (Roman), coffæa arabica, cusparia or angustura, narcotine, nitrates of potassium or sodium, salicin, and tartar emetic; in the second, Malabar nut (*Adhatoda vasica*), alum, Australian fever tree (*Alstonia constricta*), beberia, calcium phosphate, calomel, camphor, carbazotate (picrate) of ammonium, castor (Russian), cerevisiæ fermentum, charcoal, corn (Indian), California fever bush (*Garrya Fremonti*), gentian, gulancha (*Cocculus cordifolius*), iron sulphate, Labarraque's solution, olive tree (leaves and resin), opium, picric (carbazotic) acid, pepper (*piper nigrum*), pepper corn, piperine, phloridzina, potassium permanganate, quassia, quinine-flower (*Sabbatia Elliotti;* also *Sabbatia campestris*), sodium chloride, the sodium sulphites, soymida febrifuga, strychnos nux vomica, strychnine, sunflower, sweet flag (*Acorus calamus*), the synthetics (antipyrine, acetanilide, phenocoll, methylene blue), tannin, turpentine, and zinc oxide and sulphate.

Two articles which follow on the subject of sunstroke and on scalds and burns exhaustively collate the latest information on these subjects.

The "war number" of the *Monthly Cyclopædia* should prove of special value to those practitioners who are called from civil to military life and practice.

Ectopic Gestation in Australia.—This condition would seem to be unduly common in that country, if we may judge from the *Australasian Medical Gazette* for April 20th. In that journal is published a paper on Early Ectopic Gestation, which was read by Dr. F. Batchelor at the annual meeting of the New Zealand branch of the British Medical Association held in Nelson, 9th to 12th of March. In this paper the author refers to fourteen cases that came under his own notice.

He says that while authorities viewed ectopic gestation as a highly dangerous condition, it was well recognized that a large proportion of cases might undergo spontaneous cure. The eclampsic intraperitoneal form all viewed as the most alarming, and many spoke of it as being uniformly fatal if left to Nature. With this extreme view he entirely disagreed. Of his fourteen cases, ten were varieties of intraperitoneal hæmorrhage—one from tubal abortion; four, secondary rupture from the broad ligament; five, direct intraperitoneal, and of these five, three only were eclampsic in type. (A fourth he attended in conjunction with Dr. Barnet.) These patients were at one time blanched, pulseless, and almost moribund. Desperate as their condition was, it appeared to him that it was quite conceivable recovery might have taken place without surgical interference. In Case No. I, which occurred several years before operation for ectopic gestation had become a recognized procedure, the patient had had three desperate attacks of hæmorrhage. The physical signs and history were those of extra-uterine gestation. A diagnosis was made, and an operation, even at that early date, suggested, but, fortunately for the patient possibly, not undertaken; and, although for many weeks apparently on the brink of the grave, she eventually recovered under rest, astringents, and sedatives, and was alive to this day.

In the other three, with the eclampsic form of hæmorrhage, all certainly made excellent recoveries after operation, but their condition, so far as he could remember, could not possibly have been worse than that of Case No. I.

Of the remaining seven cases, none were in immediate danger from the hæmorrhage, and there was no reason why absorption of the effused materials might not have occurred. This opinion would seem to many little less than rank heresy, but he wished to advance two lines of argument in support of his contention.

Until the year 1891 he had never deliberately operated for ruptured ectopic gestation, and although for some fifteen years engaged in a large general practice, and for some six years later in special gynæcological work, where a considerable number of cases diagnosticated as pelvic hæmatocele came under his charge, he could never remember a single death that he could directly or indirectly attribute to pelvic hæmatocele, or the rupture of an extra-uterine fœtal sac. The case, No. I, already quoted, and as bad as any that he could since remember, and which would nowadays at once be treated by abdominal incision, recovered spontaneously.

Following this paper in the *Gazette* are three cases of ectopic gestation recorded respectively by Dr. T. C. Moore, Mr. H. B. Leatham, and Dr. A. Martin, while in the discussion which ensued, Dr. Gibbs referred to two cases, Dr. Graham Campbell to one, and Dr. Cleghorn stated that in his own experience he had met with nine.

Tuberculosis and Pulmonary Phthisis not Identical.—Dr. Babi, Dr. Perron, and Dr. Gimeno (*Lancet*, April 30th) read a paper to the International Congress of Hygiene, at Madrid, in which they reported the results of their animal experiments upon tuberculosis with serum from donkeys, and of their subsequent trials of this serum on human subjects. In the latter they obtained good results for external tuberculosis of the knee and other parts, and for lupus. Their patients seemed to be cured. But when dealing with tuberculosis of the lungs the result was very different. Microscopic examination had revealed the presence of the Koch bacillus, but the patients had no fever, no night sweats, and no yellowish-green sputa. Treated with the serum, their general health at first seemed to improve and the number of the Koch bacilli decreased in notable proportions. On the other hand, the streptococcus and *Staphylococcus pyogenes* increased. In two cases the last sputa examined showed that the Koch bacilli had entirely disappeared; but with the disappearance of the specific bacillus of tuberculosis hectic fever set in, and one patient died in eight and the other in ten days with the symptoms of septic poisoning. In consequence of these experiences the writers of the paper conclude that tuberculosis and pulmonary phthisis are two absolutely distinct diseases. Tuberculosis is due to the Koch microbe and can be cured by the serum they have prepared. The second is a consequence and after result of the first, due not only to the bacillus of tuberculosis, but also to the streptococcus and the staphylococcus. No remedy has yet been found for this latter development of the disease; it is characterized by hectic fever, nocturnal perspiration, purulent expectoration, and cachexia. The experiments made seem to indicate that there is antagonism between the different agents of phthisis and that it is at least dangerous to attack one of these agents without simultaneously destroying the others. Therefore to treat tuberculous phthisis it would be necessary to obtain serum from a donkey which had been rendered immune, not only against the Koch bacillus, but also against the streptococcus and the staphylococcus found in the sputa of phthisical patients. The serum they have prepared from a donkey could be used when dealing only with the Koch bacillus, as, for instance, in the case of children born from phthisical parents, when it could be employed as a preventive.

Professor Huxley on Smoking.—The *Hot Springs Medical Journal* for May contains the following quoted from the *Chicago Medical Recorder:*

At a debate on smoking, among the members of the British Association for the Advancement of Science, many speakers denounced while others advocated the practice. Professor Huxley said: "For forty years of my life tobacco has been a deadly poison to me. [Loud cheers from the antitobacconists.] In my youth, as a medical student, I tried to smoke. In vain; at every fresh attempt my insidious foe stretched me prostrate on the floor. [Repeated cheers.] I entered the navy; again I tried to smoke, and again met with a defeat. I hated tobacco. I could almost have lent my support to any institution that had for its object the putting of tobacco smokers to death. [Vociferous applause.] A few years ago I was in Brittany with some friends. We went to an inn. They began to smoke. They looked very happy, and outside, it was very wet and dismal. I thought I would try a cigar. [Murmurs.] I did so. [Great expectations.] I smoked that cigar; it was delicious! [Groans.] From that moment I was a changed man; and now I feel that smoking in moderation is a comfortable and laudable practice, and is productive of good. [Dismay and confusion of the antitobacconists. Roars of laughter from the smokers.] There is no more harm in a pipe than there is in a cup of tea. You may poison yourself by drinking too much green tea, and kill yourself by eating too many beefsteaks." [Total rout of the antitobacconists, and complete triumph of the smokers.]

Citric Acid in the Prophylaxis of Whooping-cough.—According to the *Therapist* for May 14th, Moncorvo Filho, of Rio Janeiro, states that the special bacillus of pertussis is destroyed in its chosen home, the larynx, by swabbing the periglottic region with a ten-per-cent. solution of citric acid with simple syrup. It also constitutes an effective prophylaxis against infection. He succeeded in preventing the disease in many children living with others infected, by this means, or merely by the administration of small quantities of citric lemonade during the day. He considers resorcin and asaprol the most effective of other remedies.

The Diagnostic Value of the Reflexes in Lesions of the Cervical Portion of the Spinal Cord.—M. Mendelssohn, of St. Petersburg (*Gazette hebdomadaire de médecine et de chirurgie,* May 15th), says that, while it is admitted in the physiology and pathology of the nervous centres that a lesion or section of the upper part of the spinal cord does not abolish the spinal reflexes, but, on the contrary, exaggerates the reflex irritability of the cord below the site of injury, many observations have lately been published in which injury to the cervical portion of the cord has been followed by entire abolition of the tendon and cutaneous reflexes in the parts innervated from the cord below the site of lesion. The author, seeking to explain these apparently contradictory facts, has made, with M. Rosenthal, a series of experiments by which he finds that the normal reflexes—meaning thereby those which respond to the smallest possible stimulus—all traverse the upper part of the spinal cord. From this it would seem that a lesion of this portion of the cord must entail the abolition of the reflexes of the entire spinal axis below the site of injury. The fact of the abolition of spinal reflexes in cases of lesion of the upper portion of the cord thus acquires a great semeiologic significance for the segmentary localization of this lesion. It becomes a diagnostic localizing sign. The abolition of the reflexes in the lower parts of the organism by no means implies, as has been hitherto held, the existence of a lesion in the lower part of the cord; on the contrary, this symptom permits us to affirm the presence of a lesion through the level of the upper part of the spinal axis—viz., the bulbo-cervical region.

The Diuretic Action of Massage of the Abdomen in Affections of the Heart.—M. F. Cautru (*Gazette hebdomadaire de médecine et de chirurgie,* May 15th) presented to the French Academy of Medicine a communication in which he arrrives at the following conclusions: 1. Abdominal massage has undoubtedly a diuretic action, whether it be employed alone or in conjunction with general massage and Swedish movement. In certain cases, however, the combination of these methods gives more prompt, more durable, and more complete results. 2. In cardiac patients diuresis is rapidly induced, especially in those who are subjects of subcutaneous or visceral œdema; sometimes from the first day, but usually toward the third day of massage, the author has seen the amount of urine increased from two hundred and fifty grammes to three thousand or thirty-five hundred. 3. The general condition improves as the circulation becomes more regular, and the composition of the urine becomes more normal. 4. Massage and Swedish movement can, by various manœuvres, produce at will an augmentation or diminution of pressure at the level of the heart and vessels. They can, therefore, to some extent, be used to restore thereto their lost elasticity in chronic cardio-vascular affections, and must be regarded as the best preventive remedy against arteriosclerosis in those of arthritic tendencies. 5. Massage does not prevent the continued employ of any medicaments previously used. It will aid them, or can be alternated with them, or replace them when they are no longer efficient. It is an additional method of treatment. At the same time, it deserves preference because of its harmlessness when it is employed in a methodical manner, and for this reason especially, that it is a natural procedure, a truly physiological therapeutic measure.

The Action of Tobacco on the Sight.—According to *Médecine moderne* (*Lyon médical,* May 15th), not one out of a hundred and fifty employees in an American tobacco factory exhibited, on examination, normal vision. All of the employees either smoked or chewed. In forty-five cases the acuteness of vision was perceptibly lessened; in thirty, dyschromatopsy was very pronounced—to some, red appearing as brown or green; to others, green seeming to be blue or orange. The majority were incapable of distinguishing a white point in the centre of a black carton.

Doctors in London.—London contains, says the *Journal des débats,* quoted by *Revue médicale* for May 18th, 34,642 physicians. The *Journal des débats* would like to know how many of the 34,642 physicians in London die of hunger. The *Journal* has got a bit mixed; 34,642 is the number of registered British practitioners in the *Medical Directory.* There are a few other parts of the world besides London where English graduated physicians are to be found.

A Substitute for the Gum Lancet.—Dr. Wallan (*Alkaloidal Clinic,* May), in reply to an article by Dr. Love in that journal, urges that when irritation from non-advancing teeth occurs it is because the normally flinty teeth, to which the soft gums can offer no practical resistance, are suffering from lack of nutrition. While admitting that the gum lancet gives temporary relief and possibly faintly stimulates the local nutritive process, yet, since it supplies none of the lacking elements for which the child's system is so loudly clamoring, and transforms normal into cicatricial tissue, which is ten times as hard for the tooth to displace, it is radically wrong, an outrage to Nature, and an imposition on the helpless little sufferer. In place thereof the writer recommends correcting any faulty conditions in the infant's alimentary tract, and placing it upon a mixture of the calcic salts, approximating the proportions as nearly as possible to those found in the teeth. For example: Calcium phosphate, two parts; calcium carbonate, three parts; sodium phosphate, one part. Mix. Triturate to an impalpable powder. Direct: Three to five grains or more with other food, three or four times a day for a week, then once a day, p. r. n. The fluoride salt might be a desirable addition. In cases of anæmic children a trace of ferric phosphate is added.

While wholesale condemnation of the gum lancet is as much to be deprecated as its indiscriminate use, like all the extreme views which come in waves over the profession, there is doubtless much practical sense in the course recommended by Dr. Wallan of nourishing the teeth.

Phthisis in Relation to Great Altitudes.—Dr. Beggs, of Denver (*Western Medical and Surgical Gazette,* May), in an article on Consumption and High Altitudes, says that it is easier to say what cases should not be advised to go to Denver and other resorts of great altitude than to say which cases would probably be benefited. Those to whom great altitudes do not hold out favorable inducements he considers to be: 1. Cases of phthisis florida in any stage. 2. Cases with a strong predisposition to febrile reaction on slight provocation. 3. Cases in which there is extensive lung involvement. Of course these cases offer opportunity for the greatest niceties of judgment, and many cases in which a bad prognosis has been made have done well. 4. Cases complicated by cardiac lesions with failure of cardiac compensation. 5. Cases of whatever kind in individuals who are unwilling to make the condition of their health the subject of strict conscientious attention.

In the succeeding article, Dr. S. G. Bonney, in considering the question of pulmonary hæmorrhages in Colorado, arrives at the following conclusions: 1. That the susceptibility to hæmorrhage in pulmonary invalids is decidedly greater in those with nervous than with phlegmatic temperaments. 2. That hæmorrhagic cases in general, constituting about one half the entire number, do rather better in Colorado than the non-hæmorrhagic. 3. That those cases with distinctly hæmorrhagic onset, in the absence of pronounced symptoms or the existence of physical signs, respond more than all others to the favorable influences of the climate, presumably on account of the early diagnosis secured and the more prompt recourse to climatic change. 4. That in those with previous hæmorrhages the proportion of recurrences in Colorado is small, but the ultimate results less satisfactory. 5. That not far from one in ten or twelve may be expected to have a primary hæmorrhage in Colorado, those belonging to this class furnishing the smallest percentage of improvement. 6. That recurrences shortly after arrival are more likely to ensue in those cases with hæmorrhage within one month before coming to Colorado, the ultimate prognosis, however, being by no means necessarily unfavorable. 7. That hæmorrhages occurring after a prolonged residence in Colorado are usually more serious and attended more frequently with unfortunate results. 8. That no definite relation exists between the development of the hæmorrhage and either the extent of pulmonary involvement or the degree of activity of the tuberculous process, the larger number of those before arrival occurring during comparatively slight, inactive infection, and nearly half of those in Colorado taking place in the course of pronounced improvement. 9. That, as is well known, the existence of moderately extensive cavity formation predisposes to the tendency to hæmorrhages, although not more so in Colorado than elsewhere. 10. That even copious hæmorrhages, resulting from rupture of small pulmonary aneurysms, although always of serious moment, and possibly more frequent in Colorado than at lesser elevations, are not necessarily associated with a uniformly unfavorable prognosis. 11. That the avoidance of pulmonary hæmorrhage in Colorado demands competent, continuous medical supervision, and strict compliance with detailed instructions with reference to rest and mode of life.

Mexico for Consumptives.—Dr. W. S. Watson (*Journal of the American Medical Association,* May 21st), in an article on Where the Weak-lunged or Consumptive and Neurasthenic may Live and Enjoy Life, considers that portions of the republic of Mexico, especially the high table-lands at an elevation of from three thousand to seven thousand feet above the sea level, offer more and better advantages than any other country.

He says: "The chief points of importance in climatic conditions are those favorable to non-development, retardation, and cure of consumption, which are dryness of air, freedom from micro-organisms, irritants, and noxious gases, the largest amount of sunlight practicable, diminished barometric pressure, ozoniferous atmosphere, and chief of all a climate that admits of an outdoor life the largest possible amount of time. I am sure that high altitudes in a southern latitude are the only safe resorts and afford the advantages enumerated."

There is an increase in electrical tension, a higher potential quality, as we gain in altitude; in other words, the dryer the air the more positive are the electric currents that surround us.

Of the general conditions in Mexico he remarks that they are greatly misunderstood.

"There is in Mexico a strong educational interest manifest; excellent facilities in this direction are afforded at the capital by a school of fine arts, professional schools for women as well as men, an academy of fine arts, a conservatory of music, school of mines, school of jurisprudence, military institute, medical and commercial colleges, preparatory school for boys, deaf, dumb, and blind institutes, national museum, a superb public library with over two hundred thousand volumes. President Diaz has an idea to thoroughness, as is evinced by his prescribing a seven years' course in the national schools, the college of agriculture and college of engineering. The course includes French, English, German, Greek, and Latin, geography, meteorology, chemistry, botany, geology, architecture, agriculture, surveying, bookkeeping, and political economy. The medical course is seven years. Musical culture is a prominent feature in Mexico. One of the noble institutions is the school of arts for women; in this school poor girls have unequaled advantages for learning. The government gives them a comfortable room and two meals a day. Many of the poor are supplied with clothing. Can the United States boast of a nobler benefaction? As regards civility and politeness, they are certainly the most polite people I have ever seen, with universal respect for age, genius, and their superiors. Hospitality is a national characteristic; a leading inspiration among them is to make home beautiful; to this end every element of refined taste and culture is brought to bear. Americans may well copy their taste in floral and other home decorations."

The rainy season occurs between the months of April and November, just when needed to cool the air, most of the showers occurring during the night, and thus interfering but little with outdoor life.

The accommodation for invalids is certainly meagre, but that is because there is but little demand for such. He considers that the day is near at hand when sanitaria for the people of the northern sections will be plentiful in Mexico.

Rupture of the Ovary.—Dr. Depage, of Brussels (*Annales de la Société Belge de chirurgie,* April 15th), records a case of rupture of the ovary consequent upon interstitial hæmorrhage, which nearly killed the patient. The patient presented symptoms of acute peritonitis attributed to perforation of the appendix. There were collapse, profound anæmia, cold sweats, pinched countenance, and subnormal temperature. The pulse was feeble, rapid, and threadlike, not countable. The abdomen was swollen, and contained a great quantity of fluid. In the right flank a greater resistance was perceptible than elsewhere in the abdomen. These phenomena had come on suddenly, two or three days previously, with an acute pain in the right side. The girl was a virgin. Without losing time in verifying a diagnosis, Dr. Depage at once performed laparotomy, continuous subcutaneous injection of normal saline solution being practised throughout the operation. Blood welled up continuously in the wound, and after searching for the source of the mischief, an enlarged ovary, three or four times its normal volume, was found, disorganized by interstitial bleeding, and obviously the source of the intraperitoneal hæmorrhage. A cure ensued without any noticeable accidents, and further, the dysmenorrhœa to which the patient had hitherto been subject also disappeared.

A "Double" of the Tubercle Bacillus.—The *Laryngoscope* for May quotes an observation by Dr. Alfred Möller (*Deutsche Medizinal-Zeitung,* February 17th; *Medicine*) of a germ which morphologically, and also in its staining properties, closely resembles the *Bacillus tuberculosis.* If some timothy grass is placed with sterilized water in rubber-capped test tubes and these are kept in an incubator for from four to eighteen days, one will find this germ on staining, at least in many of the tubes. He has also found it in the dung of cattle, horses, swine, sheep, and mules. The cattle were all proved by the tuberculin test to be free from tuberculosis. The germ will grow on the same culture media as the tubercle bacillus, but not in either sterilized or unsterilized milk. It will grow at the room temperature. The author promises a future communication to describe its relation to Koch's bacillus, its pathogenesis, etc.

Death of Dr. Schimmer.—The death has occurred of Dr. Ludwig Schimmer, professor of dermatology in the University of Budapest.

Sarcoma of the Right Clavicle; Resection followed by Entire Restoration of Function.—M. A. Besson (*Journal des sciences médicales de Lille,* May 7th), in a communication to the Anatomico-clinical Society, reports a case in which the entire clavicle was resected by Professor Duret for sarcoma. Union took place by first intention, and the patient left the hospital at the end of three weeks having recovered perfectly all the movements of the right arm.

Acetonuria in the Pregnant Woman as a Sign of Fœtal Death.—Knapp (*Therapeutische Wochenschrift,* 1306, 1897; *Lyon médical,* May 8th) records ten cases in all of which this diagnostic sign was verified.

Volvulus of the Cæcum.—M. Zöge von Manteuffel (*Gazette hebdomadaire de médecine et de chirurgie,* May 8th) reported to the Congress of the German Society of Surgery at Berlin an account of twenty recorded observations of volvulus of the cæcum, to which he added four cases of his own. He remarks that those patients submitted to expectant treatment all died, while of those operated on by laparotomy three recovered. M. Zöge had only one death in his own four cases, that death taking place in a case where an artificial anus was made.

A New Medical College.—It having been shown that forty or fifty per cent. of the population of New York is receiving free medical treatment, the question has often occurred to us: How shall we provide for the remainder?

With the meagre supply of hospitals and dispensaries it has hitherto been impossible to treat every one. With the various clinics in the central portion of the city for the wealthier classes, and a still larger number on the east and west sides for the less well-to-do, many have supposed that the ground was well covered; but, fortunately, the statisticians got to work and disclosed the fact that only one half had attended the dispensaries—the remainder having through ignorance or perverted instincts visited a private physician and perhaps paid him for the consultation.

This having been brought to the notice of a favored few who are financially independent, it was found necessary to increase the facilities for gratuitous work, hence we have a new college which naturally implies more hospitals and dispensaries for feeders of clinical material and medical appointments. We trust that the citizens of New York will be reasonable and wait patiently until the scheme of medical charity has been broadened and developed to compass the needs of the hour. It is the intention of our medical philanthropists that eventually every one shall be provided for, and that none, even the wealthiest, shall suffer for free medical attendance. The only obstacle now remaining is the difficulty of giving the latter medicine without injury to their finer sensibilities, yet even this is being gradually overcome by the demand of a nominal fee for the service rendered.

A very few more institutions of this nature would accomplish the end desired, and this city might easily lead all others as regards its beneficent provisions for the physical welfare of the rich and those who can pay a moderate fee. The poor will of course be allowed to consult a private physician if they prefer to do so.—*New England Medical Monthly,* June.

The Picric-acid Treatment of Burns.—Dr. Charles Willems, of Ghent (*Annales de la Société Belge de chirurgie,* May 15th), adds his favorable testimony to the picric-acid treatment of superficial burns—*i. e.,* those of the first and second degree only. He points out that picric acid is only soluble in water to the extent of about one half per cent., and consequently solutions of five per cent., as talked of, are impossible. In ointments, five and even ten per cent. strengths are equally out of the question. The ointment which he ordinarily uses is one of one-per-cent. or at most two-per-cent. strength, and about two hundred and thirty grains of this are spread upon lint to form the dressing. He has never observed any toxic symptoms, although many of his dressings were applied to infants, and the production of pain he has not found common. On the contrary, the pain of the burn has usually been immediately and lastingly abolished. The only inconvenience he has noticed has been a yellow discoloration of the skin, which he finds may be got rid of by alcohol washing, or by a watery solution of carbonate of lithium.

Therapeutic Uses of Gastric Juice.—Dr. Fremont (*Gazette médicale de Paris,* May 7th) communicated to the Congress of Medicine at Montpellier the results of some experiments on the therapeutic uses of gastric juice taken from the stomachs of dogs. He records a case of acute enteritis cured in a few hours, one of cholera nostras cured in twelve hours, and among others related are *grippe* with gastro-intestinal complications, gastro-intestinal dyspepsia and enlargement of the liver with progressive emaciation, apepsia in a morphinomaniac with gummata and exostoses, deficient assimilation in a three-months-old child, typhoid fever with severe emaciation, and dilatation of the stomach with progressive loss of flesh. These cases were all cured by this means.

Original Communications.

THE CARTWRIGHT LECTURES

BEFORE THE

COLLEGE OF PHYSICIANS AND SURGEONS.

THE SURGERY OF THE STOMACH.

Lecture III.—(*Concluded.*)

TUMORS OF THE STOMACH, HERNIA OF THE STOMACH, GASTRECTOMY, GASTRIC ULCER.

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It will not be possible in the short time remaining at my disposal to make any careful analysis of the table which Dr. Tinker has prepared. Those who are interested in any particular point can ascertain the facts exactly by a detailed examination of the cases. A few points, however, I may especially call attention to.

1. *Number of Operations.*—It is a very encouraging fact that although but two years have elapsed since the first tabulation of all the cases thus far operated on was published, in this brief period the number of operations published is exactly equal to the number which Weir and Foote * were able to collect in sixteen years.

2. *The Age and Sex.*—Looking over the tables, I find that there were but nine men as against sixty-one women. In eight cases the sex was not given. Taking twenty-five years as the dividing line, all of the men were over twenty-five, and four of them were over forty years of age. Of the women, forty-one were twenty-five years old or under and only sixteen were over twenty-five, the age not being stated in four. The proportion of perforations in women, therefore, is even greater than the proportion of ulcers. The age and sex lend force to the distinction which Seymour Taylor has lately made,† that there are two distinct forms of gastric ulcer: (1) the chronic ulcer seen most often in men past forty years of age, and (2) the acute perforating ulcer seen most often in anæmic women below twenty-five years of age.

3. *Site of Perforation.*—Following Weir and Foote's analysis, I have ascertained the frequency of the ulcer in five situations: the anterior wall, the posterior wall, the lesser curvature, the cardia, and the pylorus. Not seldom the situation of the ulcers is stated to be, for example, "on the anterior wall near the cardia," etc. In such cases they appear in both these enumerations.

	Weir and Foote.	Keen and Tinker.	Total.
Anterior wall..................	43	52	95
Posterior wall..................	11	8	19
Near lesser curvature...........	6	31	37
Near cardia.....................	27	27	54
Near pylorus....................	9	13	22
Total.......................	96	131	227

In the preceding table the two series of Weir and Foote, and myself and Tinker are shown separately and combined.

Practically the figures correspond almost exactly, except in the case of the greater frequency of perforation near the lesser curvature, in the second table.

4. *Ulcers not Found.*—Another encouraging fact is that the number of cases in which the ulcer was not found is very much less. In the seventy-eight cases in Weir and Foote's table there were sixteen in which the ulcer was not found, whereas in our own table of seventy-eight cases there were only nine in which the ulcer was not found, and of these nine, six died (Nos. 31, 32, 33, 41, 50, and 62) and three recovered (Nos. 14, 26, and 27). The reason for not finding the ulcer in some cases, as pointed out by Weir and Foote and others, has been that the operators have not deemed it wise to separate adhesions. Now that this error of technic has been pointed out, the number of such cases will still further diminish in the future.

5. *The Mortality* has been progressively reduced, as

Combined Results, Weir and Foote, and Keen and Tinker.

Time of Operation.	Total.	Died.	Recovered.	Percentage of mortality.
Under 12 hours......	49	14	25	28.57
12 to 24 hours......	33	21	12	63.63
24 to 48 hours......	27	21	6	77.77
Over 48 hours	33	17	16	51.51
Not stated..........	14	10	4	
	156	83	73	53.20
Weir and Foote's Table.				
Under 12 hours......	23	9	14	39.13
12 to 24 hours......	17	13	4	76.47
24 to 48 hours......	18	16	2	88.88
Over 28 hours	14	12	2	85.71
Not stated..........	6	5	1	
	78	55	23	71.51
Keen and Tinker's Entire Table.				
Under 12 hours......	26	5	21	19.23
12 to 24 hours......	16	8	8	50.
24 to 48 hours......	9	5	4	55.55
Over 48 hours	19	5	14	25.31
Not stated..........	8	5	3	
	78	28	50	35.89
Keen and Tinker; Operations before 1896.				
Under 12 hours......	7	2	5	28.57
12 to 24 hours......	2	2	..	100.
24 to 48 hours......	1	1	..	100.
Over 48 hours	9	2	7	22.22
Not stated..........	4	2	2	
	23	9	14	39.13
Keen and Tinker; Operations since 1896.				
Under 12 hours......	18	3	15	16.66
12 to 24 hours......	14	6	8	42.85
24 to 48 hours......	8	4	4	50.
Over 48 hours	10	3	7	30.
Not stated..........	4	3	1	
	54	19	35	35.18

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* *Medical News*, April 25 and May 2, 1896.

† *Medical Press and Circular*, March 23, 1898.

TABLE OF 78 OPERATIONS FOR PERFORATED GASTRIC ULCER IN ADDI-

COMPILED BY W. W. KEEN, M.D.,

NO.	OPERATOR.	REFERENCE.	AGE AND SEX.	DIED OR RECOV.	PREVIOUS HISTORY.	CHARACTER OF ATTACK.	HRS. BEF. OPERAT.	DATE OF OPERATION.
1	Anderson, A. R.	*Lancet*, 1897, ii, 1109.	16 F	D not from oper.	Had had indigestion 3 weeks.	Intense abdominal pain above navel ½ hour after a hearty meal.	21	Nov. 26, 1895.
2	" "	" " "	19 F	R	Dyspeptic symptoms; vomiting, but never hematemesis.	Violent abdominal pain 2½ hours after breakfast.	32	Dec. 16, 1896.
3	Barker, A. E.	*Lancet*, 1896, ii, 1584.	20 F	R	For 1 year anemic; anorexia, constipation, pain in epigastrium and mid-dorsal region; retching but no hematemesis.	While going down stairs coughed sharply; immediate, severe gastric pain followed by fainting and semi-comatose condition.	8½	Dec. 19, 1895.
4	" "	" " "	23 F	D	. . . .	Severe epigastric pain after breakfast, but worked till noon.	32	Dec. 1, 1895
5	" "	" " "	24 F	R	Occasional trifling dyspepsia; double inguinal hernia for about 6 years.	Truss taken off before going to bed; right hernia came down and was replaced. Shortly after, on turning in bed, violent pain in right inguinal region.	18	June 13, 1896.
6	" "	" " "	27 F	R	Anemia, habitual constipation, and severe dyspeptic symptoms several years; never hematemesis.	While dressing fell on her bed, pale, motionless, pulseless, deep collapse.	7½	Nov. 2, 1896.
7	" "	" " "	23 F	D	Epigastric pain after eating for some years; no vomiting.	Severe epigastric pain gradually spreading to entire abdomen.	24	. . . . .
8	" "	" " "	17 F	D	Indigestion 6 months with pain ¼ hour after meals; worse in past week; never vomiting.	Severe pain in abdomen ½ hour after breakfast but worked till noon, ate hearty dinner; very severe pain ½ hour after.	17	Feb. 29, 1896.
9	" "	" " "	20 F	D	Dyspepsia 1 year.	Sudden pain in abdomen followed by collapse.	3½	Oct. 25, 1896.
10	Barling, G.	*Brit. Med. Jour.*, 1894, ii, 864.	F	R	. . . .	. . . .	3 wks.	. . . . .
11	Bartlett.	*Birmingham Med. Review*, 1888, 183.	. .	D	. . . .	. . . .	. .	. . . . .
12	Bell, James, of Montreal.	Personal communication.	20 F	D	Symptoms of gastric ulcer for 6 months.	Sudden, severe, abdominal pain.	58	Dec. 17, 1894.
13	Bell, James, of Montreal.	Personal communication and *Montreal Med. Jour.*, 1897, xxv, 915.	20 F	R	Dyspeptic symptoms some years; pain after eating and occasional vomiting for 4 to 5 months. Diagnosis, gastric ulcer.	Symptoms of perforated gastric ulcer.	6	Nov. 13, 1896.
14	Bell, James, of Montreal.	Personal communication and *Montreal Med. Jour.*, 1897, xxv, 915.	25 F	R	Had suffered from dyspepsia.	Sudden severe pain in right epigastrium.	55	Oct. 12, 1896.
15	Bell, James, of Montreal.	Personal communication.	25 F	R	Jan. 1, 1898, slight pain in left hypochondrium and through back; no relation to food; no nausea or vomiting. Jan. 20 pain sharp and gradually became worse.	Extreme pain in left hypochondrium followed by faintness.	9	Jan. 22, 1898.
16	Bennett, W. H.	*Lancet*, 1896, ii, 310.	32 M	R	Indigestion 8 months; for 6 weeks continued umbilical pain, at times tenderness; constipation.	Acute abdominal pain; vomiting; shortness of breath.	ab't 5	April 27, 1896.
17	" "	*Lancet*, 1894, ii, 1147.	25 F	R	8 months previously attacks of pain in epigastrium, especially after eating, relief by vomiting; never hematemesis.	Very severe pain in epigastrium, later pain in left side of chest, acute discomfort on deep inspiration.	8 days	Nov. 19, 1893.
18	" "	*Lancet*, 1898, i, 565.	16 F	R	For 18 months pain after food, usually relieved by vomiting.	Sudden acute pain in epigastrium, followed by faintness.	2 wks.	Oct. 30, 1896.

TION TO THE 78 CASES ALREADY TABULATED BY WEIR AND FOOTE.

AND M. B. TINKER, M.D.

CONDITION AT OPERATION.	SITE OF PERFORATION.	OPERATION.	REMARKS.
Abdomen slightly distended, rigid, very painful and tender; liver dulness diminished; P. 130; R. 28; marked prostration.	Anterior surface near cardia.	Median incision, umbilicus, abdomen filled with opaque fluid in which particles of food floated. Operation 1 hour and 15 minutes.	Rectal feeding 4 days. On 9th day T. 101°; headache, pain in right shoulder, cough. Dec. 20 wound reopened but nothing found. Patient died Jan. 2, 1896. Necropsy: double broncho-pneumonia, multiple abscesses of liver. Stomach soundly healed, no peritonitis.
Abdomen not distended but rigid and tender; liver dulness diminished.	Anterior surface near cardia.	Median incision; slight amount of turbid fluid; perforation small; ulcer excised, leaving an opening about 1½ inches by ¾ inch; Lembert sutures; flushing with boiled water. Operation 45 minutes.	Rectal feeding for 3 days. Satisfactory recovery.
P. 120, T. 103 2° F.; breathing shallow, abdomen not distended, rigid, tympanitic; liver dulness obliterated.	Anterior surface near lesser curvature.	Median incision and transverse incision through rectus abdominis. Immediate escape of gas and turbid fluid. Abdomen and pelvis contained yellowish fluid and lymph flakes; silk sutures. Abdominal cavity sponged and drained. Operation 1½ hours.	Food by mouth at once; also nutrient enemata and suppositories. Uninterrupted recovery.
Collapse; P. 110; T. 102° F.; R. shallow. Abdomen distended, very tender.	Left of middle anterior wall.	Median incision. On opening peritoneum escape of gas and fluid mixed with food. Abdominal cavity cleansed; double row of sutures. Shock not great.	On 3d day temperature began to rise. Death on the 15th day. Necropsy: large subphrenic abscess and beginning basal pleurisy.
Pain increased; great tenderness on palpation especially in inguinal region; rings clear; T. 102.2°; P. 134; provisional diagnosis of reduction of hernia en masse or appendicitis.	Anterior wall near pylorus.	4-inch incision through right rectus abdominis ending 1 inch above external inguinal ring; turbid fluid welled out of pelvis; rings found empty; appendix normal; no sign of strangulation. Sponge on holder thrust upward in cleaning the abdominal cavity was followed by gas and fluid revealing nature of case. Second incision 5 inches long above umbilicus; abdomen full of fluid and lymph flakes. Careful sponging; Lembert sutures; gauze drain. Operation 2 hours.	Great collapse after operation. Food by mouth at once, with nutrient enemata and suppositories. Wound soundly healed July 27. Patient well until Nov. 15, when vomiting a little blood and some pain, but apparently well again Dec. 1.
Severe pain in left part of epigastric region. R. shallow; frequent; P. 80 to 90; T. 102.2° F. Abdominal wall rigid; liver dulness obliterated.	Near lesser curvature, cardiac end.	Incision as in case 3 above. Abundant escape of gas and fluid on opening abdomen; 2 rows silk sutures; abdomen drained and closed. Operation 1 hour and 23 minutes.	Feeding as in previous cases. All went well 1st week, then fluctuating T. for 10 days, friction rub and deficient resonance over left lung 18 days, puncture of 8th intercostal space; 13 oz. fluid. Next day resection 9th rib without finding pus. 22d, pus found by puncture in wound and either local empyema or subphrenic abscess opened and drained. 30 days patient doing well.
Pale, collapsed; P. 160, thready; R. 60, chiefly thoracic; abdomen greatly distended, rigid, resonant; liver dulness absent.	About middle anterior wall.	Median incision; escape of gas and yellow fluid mixed with food. Adhesion between stomach and abdominal wall. 2 rows silk sutures; abdominal cavity sponged. Opening made in left flank for drain tube between liver and diaphragm. Gauze drain. Operation 65 minutes.	Patient only lived 4 hours.
Collapse; P. 90; R. rapid, shallow; T. 99° F.; abdomen distended, tympanitic, tender; liver dulness obliterated.	Anterior wall near lesser curvature.	Median incision; gush of gas and fluid containing food. Transverse incision through left rectus. Abdominal cavity sponged; 6 silk sutures. Operation 1¼ hours.	Shock not rallied from. Death in 12 hours. Necropsy: general septic peritonitis.
Pallor, surface cold, collapse; P. 108; T. 100.6° F.; abdomen distended, painful, tender in upper part; liver dulness obliterated.	Near lesser curvature, left of middle of the stomach.	Median incision; gush of gas, followed by turbid fluid containing lymph flakes and food-particles. Whole abdominal cavity sponged; 2 rows silk sutures; gauze drainage.	Comparatively little shock, but T. rose next day and patient died in 36 hours. Necropsy: general septic peritonitis.
Intensely septic, almost moribund.	. . . .	Circumscribed collection of pus removed from left hypochondrium.	Double femoral phlebitis, but good recovery.
. . . .	. . . .	Small amount of gas in peritoneal cavity, no food seen.	Death.
Livid, almost pulseless; abdomen greatly distended.	2 perforations just below lesser curvature, anterior wall of cardia.	Much gas and turbid fluid in abdomen; 3 sutures through all the coats of stomach and double row Lembert sutures. Another incision low down in median line and flushing with warm saline solution.	Death after 9 hours.
. . . .	Anterior wall near cardia and lesser curvature.	Perforation closed by 2 stitches through entire thickness of stomach, and double row Lembert sutures. Another incision low down in median line; abdominal cavity flushed and mass of gelatinous mucus washed out with warm saline solution; drainage.	. . . .
P. 120: T. 102 2° F.; R. 24; dull abdominal pain; distention; vomiting of greenish fluid.	Not found. Diagnosis based on free gas in the peritoneal cavity, comp. harmless peritonitis, symp. and history of attack.	Escape of free gas and turbid, odorless sero-pus with lymph flakes. Appendix removed, but no gangrene or perforation, and inflammation seemed to have invaded it from without. Flushing with warm saline solution; drainage by glass tube and iodoform gauze.	. . . .
Abdominal pain, rigidity and general tenderness.	Anterior surface 1 in. from cardia, ¾ in. from lesser curvature.	Escape of gas and much turbid fluid containing lymph. Perforation closed by 2 silk sutures through all the coats of stomach, and 2 rows Lembert sutures. Second incision low down and peritoneal cavity flushed with warm saline solution.	. . . .
Skin cold, clammy; almost pulseless; hiccough; abdomen distended, tender; acute pain especially about umbilicus.	Anterior surface 2 in. from pylorus.	Median incision below umbilicus; on introducing hand into upper part of abdomen rush of fluid containing particles of food: incision prolonged upward; much difficulty in separating adhesions; perforation at least 3 inches diameter, irregular and surrounded by unusually hard induration; suturing in usual manner impossible because of induration, and sutures cutting out. Suitable part of omentum pushed into opening like a cork; fixed by 4 or 5 sutures, overlapped by Lembert sutures as far as possible; opening found to be firmly closed; sponging and flushing and suture of abdominal wound.	Food by mouth next day. Rapid rally from collapse. Left hospital June 24, feeling better than for some years; gain in flesh; no dyspepsia.
T. 100° F.; P. 112; R. 36; abdomen tympanitic, tender; undue resonance behind sternum to 4th costal cartilage, tympanitic and bell note over base of lung posteriorly and other symptoms of pneumothorax.	Believed to be on upper part of stomach; dense adhesion prevented finding it.	Median incision; escape of gas and opaque offensive fluid; cavity limited by liver, suspensory ligament, and stomach; adhesions so dense that no search was made for perforation; cavity washed; glass drain inserted.	Rectal feeding. 6th day, profuse discharge and improved symptoms. Cavity drained till obliterated. Jan. 6, 1894. Left hospital Jan. 23, free from lung symptoms and gastric pain.
R. short, labored; T. 103° F.; acute abdom. pain, rigid. over epigastrium, distent. 12 oz. pus aspirated from chest without chang. abdom. symp.	Anterior wall.	Median incision; rush of stinking brown pus, perforation closed by 4 sutures; abdominal cavity sponged; drainage.	Immediate subsidence of symptoms; T. normal 3d day. Worse again at end of first week; signs of fluid in pleura; aspiration followed by uninterrupted recovery. Left hospital well Jan. 1, 1897.

NO.	OPERATOR.	REFERENCE.	AGE AND SEX.	DIED OR RECOV.	PREVIOUS HISTORY.	CHARACTER OF ATTACK.	HRS. BEF. OPERAT.	DATE OF OPERATION.
19	Bennett, W. H.	*Lancet*, 1898, i, 565.	26 F	R	Dyspepsia for years; occasionally vomiting, never hematemesis.	Sudden acute pain in epigastrium on stooping; vomited; fainted.	72	Nov. 7, 1897.
20	" "	" " "	30 F	R	Chronic dyspepsia for years: for 3 years tender spot under border of ribs, left side; hematemesis when 9 years old.	While straining at stool after dose of castor oil acute pain in epigastrium; vomiting; faintness.	48	Dec. 2, 1897.
21	Borchgrevink, O.	*Norsk. Mag. f. Laegevidensk*, Kristiania, 1897, 4 R., xii, 66.	43 M	D on 23d.	For 2 years attacks gastric pain and vomiting; hematemesis; blood in stools.	Sudden, severe pain in left epigastrium 4 hours after eating.	ab't 10	Oct. 15, 1896.
22	Braun, H.	*Centralbl. f. Chir.*, 1897, 739.	40 F	R	For a long time gastric distress; frequent vomiting and worse during 6 years; hematemesis.	. . . .	.	Dec. 12, 1893.
23	Brenner, A.	*Wien. klin. Wchnschr.*, 1896, ix, 1117.	52 F	R	Stomach trouble since a child. Since 23d year periods of health, alternating with dyspeptic symptoms, hematemesis and black stools; pain worse during past year.	. . . .	. .	Sept. 15, 1896.
24	" "	*Wien. klin. Wchnschr.*, 1896, ix, 1117.	53 F	R	For 14 months pain and cramps in stomach after meals; in July, 1896, black stools, and since then vomiting of nearly everything eaten; pain night and day; never hematemesis.	. . . .	. .	Sept. 16, 1896.
25	Clarke, J. St. T.	*Lancet*, 1897, i, 806.	19 F	R	For 2 years hematemesis and pain after eating.	Severe epigastric pain 2 hours after dinner.	6	Nov. 11, 1896.
26 27	Cousins, J. W.	*British Med. Jour.*, 1893, i, 1258.	. .	R	. . . .	. . . .	. .	. . . . .
28	Currie, O. J.	*S. African Med. Jour.*, Cape Town, 1896-7, iv, 78.	23 F	D	Vomiting and pain after food, but never hematemesis.	Severe pain in region of lower left costal cartilages.	9	March 3, 1895.
29	Dalziel.	*Glasgow Med. Jour.*, 1896, xlv, 302.	26 F	R	Had suffered some years with symptoms of gastric ulcer.	Violent abdominal pain.	5½	. . . . .
30	Dent, C. T.	*Lancet*, 1896, i, 1718.	26 F	R	Indigestion many years; an attack of rather profuse hematemesis 3 years before.	Sudden severe epigastric pain, after moving some heavy boxes.	bet. 6 and 7	Nov. 19, 1895.
31	Faure. Reported by Apert, E.	*Bull. Soc. Anat. de Paris*, 1896, lxxi, 297.	20 F	D	Health always excellent; never vomiting, hematemesis or pain.	Atrocious pain in stomach 1 or 2 hours after dinner; pain over entire abdomen.	next day	. . . . .
32	Faure, J. L. Reported by Héresco, P., and Claisse, A.	*Bull. Soc. Anat. de Paris*, 1897, lxxii, 32-33.	28 M	D	Always well; never abdominal pain; vomiting only once; never hematemesis.	While ascending stairs acute pain over entire abdomen, radiating to left shoulder.	. .	Dec. 27, 1896.
33	Tyffe, W. R.	*Australas. Med. Gaz.*, Sidney, 1897, xvi, 331.	37 M	D	Perfectly well up to attack; no history of gastric trouble.	Sudden agonizing pain in umbilical region.	ab't 24	Jan. 28, 1897.
34	Godlee.	*Lancet*, 1894, i, 672. *Brit. Med. Jour.*, 1894, i, 576.	. .	. .	. . . .	. . . .	. .	. . . . .
35	Hartmann. Reported by Michaux.	*Bull. et Mém. Soc. de Chir. de Paris*, 1896, N. S. xxii, 222.	26 M	R	Since 15 has had pain in left hypochondrium after eating. In 1889 vomited blood three times, and was treated for digestive trouble.	After drinking some wine was taken with discomfort while walking and almost fainted. Was given a narcotic in an apothecary's shop and went home; progressively worse until operation.	ab't 3 days	Dec. 23, 1894.
36	Hodson.	*Lancet*, 1898, i, 1002.	23 F	R	Gastric symptoms for some time.	Sudden severe abdominal pain.	30	. . . . .
37	Jowers, R. F.	*Lancet*, 1895, i, 544.	24 F	R	Pain after meals 2 years ago; never hematemesis.	Violent pain in the abdomen.	6	Sept. 5, 1894.
38	" "	*Lancet*, 1896, i, 1719.	19 F	R	For 2 or 3 months pain in left side and between shoulders after eating, gradually growing worse; great tenderness over hypochondrium; no hematemesis.	Sudden faintness and severe pain over entire abdomen.	3½	Feb. 10, 1896.

CONDITION AT OPERATION.	SITE OF PERFORATION.	OPERATION.	REMARKS.
Extreme collapse; skin cold; P. small, rapid; acute abdominal pain; distention; condition apparently hopeless.	Anterior surface of cardia high up.	Median incision; escape of fluid containing gastric contents; matting of intestines; difficulty in closing perforation because up under diaphragm; rectangular cleft palate needle used, matted tissue fixed over for support; sponging; no flushing; drainage tube.	Steady but slow recovery with short interruption from parotiditis.
P. 132, weak; T. 102° F.; nausea; acute epigastric pain; general abdominal tenderness; liver dulness absent.	Anterior wall 2½ in. from cardia.	Median incision; rush of fluid containing gastric contents; intestinal matting; perforation closed; sponging; no flushing; drainage.	Rapid recovery, interrupted a few days by pleurisy left side. Left hospital Jan. 10, looking well and without dyspepsia.
Severe pain and extreme tenderness in abdomen; breathing superficial; P. 124, regular.	Posterior surface of pylorus.	Incision 15 cm. from epigastrium; escape of gas; slimy contents of stomach in abdominal cavity, serosa smooth; ulcer found with difficulty and excised; 2 rows Czerny-Lembert sutures. Intravenous injection 1500 cu.cm. salt sol. of T. 45° C. Operation 1¼ hours.	Next day fair condition; occasional vomiting coffee-ground material during convalescence. Nov. 7, gastro-jejunostomy because of continued symptoms pyloric constriction. Next day sudden collapse and death. Necropsy showed original perforation firmly healed, but 1 to 2 liters blood in stomach from another ulcer; artery eroded.
Poorly nourished; P. and T. normal. Above umbilicus tumor size of goose egg, sensitive to pressure, smooth surface, could be pushed up, but less freely movable laterally and downward. When distended by means of gas stomach extended to umbilicus; when empty, tumor not felt.	Anterior wall.	Median incision; grayish-white cloudy fluid escaped; numerous adhesions to under surface left lobe liver broken up and slit like opening found situated in an area thin as paper, size of a markpiece, neighboring tissue greatly thickened. Impossible to close by suture, because stitches cut through and caused hemorrhage; attempt to suture to abdominal wall failed for same reason. Piece of great omentum drawn up and opening closed by suturing it some distance from opening with interrupted silk sutures. Gasteroenterostomy; abdominal cavity sponged and closed.	Nothing by mouth first 3 days. Nutrient enemata 24 days. Left hospital Jan. 20, free from trouble and increased in weight. Remains well after 3½ years.
Pale, thin; systolic heart-murmur; abdominal wall resistant over stomach and liver. Treatment unavailing.	Anterior wall near the lesser curvature.	Median incision; stomach adherent to abdominal wall, at site of perforation; slimy fluid escaped on separating adhesions; infiltrated area, belonging partly to anterior and partly to posterior wall, excised after tying off and dividing lesser omentum; opening sutured, gauze drain, 1000 cu.cm. salt solution subcutaneously in breast. Operation 1½ hours.	Nutrient enemata till Sept. 22. Good recovery; eats and drinks everything; is free from pain.
Emaciated; pale; abdomen tense and tender.	Posterior wall.	Median incision; an area on anterior wall size of a pea eaten away to serosa; posterior wall adherent; transverse incision through rectus abdominis; adhesions to pancreas separated through opening made in ligamentum gastro-colicum and hole in posterior wall found size of a Gulden; hole stopped with gauze, omentum minus tied off and separated from infiltrated area, piece including infiltrated area, extending from greater curvature posteriorly to 2 fingers' breadth of greater curvature anteriorly excised, mucous membrane united with continuous suture, and sero-muscular coat with interrupted sutures; gauze packed between raw surf. of stomach and pancreas; abdom. cavity sponged, gauze drain. 1000 cu.cm. salt solution subcutaneously during operation. Operation 1½ h.	Nutrient enemata 6 days, solid food after 2 weeks. Patient has gained flesh, feels well and strong, stomach bears everything.
Collapse not marked, symptoms clearly abdominal; pallor, aspect, attitude, made evident urgent necessity for operation.	Anterior surface near cardia.	Median incision; escape of odorless gas and turbid fluid; bits of food seen escaping from ulcer. 2 rows Lembert sutures. Second opening made above pubes; free irrigation of abdominal cavity. Drainage from both wounds. Operation ¾ hour.	Nutrient enemata till 8th day. Slight discharge from epigastric wound on 6th day. Convalescence uninterrupted. Left hospital Jan. 13 with 7 lbs. gain in weight.
. . . .	. . . .	Incision and drainage.	. . . .
Continued pain and retching.	2 perforations, lesser curvature nearer cardia.	Gush of fluid on opening peritoneum; impossible to pass sutures until second incision across left rectus abdominis; stomach folded over to close perforations by 12 Lembert sutures; irrigation with boiled water; drainage.	Gradually increasing distention and rise of temp. to 103° F. on 2d day; P. 140; weakness, unconsciousness, death. Necropsy: septic peritonitis.
Profound collapse, skin cold; P. 130; T. 103° F. Abdomen retracted and tender; pain at root of neck and in right shoulder, in right iliac fossa and up ascending colon.	Anterior wall close to pylorus.	Incision outer side right rectus. Turbid fluid seen flowing down ascending colon; incision continued upward and perforation discovered. Ulcer excised; impossible to invert because of the thickening; mucous membrane and margin of ulcer sutured separately. Sponging and irrigation. Glass drain in Douglas' pouch.	Uneventful recovery. Went home after two months able to digest any food with comfort.
Intense epigastric pain; abdomen distended and tender. Dyspnea; cardiac distress; marked resonance in right hypochondrium.	Middle of the posterior wall near pylorus.	Median incision; opalescent fluid of acid reaction in abdominal cavity; adhesions on posterior wall separated, and area of thickened lymph in which perforation was probably located; walls reduplicated and perforation sutured. Hot boracic irrigation; no drain.	Nutrient enemata 24 hours, then liquids by mouth. T. 100.2° on 2d day; afterwards normal.
P. 120; T. 38.4° C.; abdomen distended, sensitive to least touch. General condition good.	Anterior & posterior walls opposite each other.	Median incision below umbilicus; escape of yellow fluid; ovaries, tubes, appendix found normal; incision continued to epigastric region, but bad general condition of patient made necessary to stop without extended exploration; flushing with boiled water; drainage.	Death next morning. Necropsy: general peritonitis; perforations concealed high under liver and posterior perforation adherent to pancreas. Other organs normal.
Sunken eyes, cold sweat, extremities cold; R. shallow; no radial P., femoral P. 128; T. 38° C.; abdomen distended, excessively tender.	Anterior wall, middle of lesser curvature.	Cocain anesthesia; incision below umbilicus; escape of large amount of opaque, dirty fluid, followed by drops of pus; drainage.	Death 5 hours after operation. Necropsy: general peritonitis; perforation discovered.
Face anxious; P. 140, small, weak; R. thoracic; T. 102°F.; abdomen distended, rigid, tender.	Posterior wall.	Escape of clear fluid on opening abdomen; intestines covered with lymph; search made for perforation of stomach and intestines, and for obstruction, but nothing abnormal seen or felt; carbolic douche 1:80; T. 100° F.; while closing abdomen sudden collapse and death.	Necropsy: perforation not found until stomach laid open.
Extreme collapse.	Near pylorus.	Median incision, rupture sewed up without difficulty.	. . . .
Pain radiating to left shoulder; abdomen distended, tympanitic; extremities cold, eyes sunken; P. 116, R. 34. Had not passed gas or feces.	Anterior surface of cardia.	Incision below umbilicus; escape of gas; fibrino purulent exudate; incision continued upward; perforation found, but impossible to bring it into wound; as patient's condition did not permit continuance of operation the abdominal cavity was walled off with gauze; 2 large drains.	Rectal feeding. T. over 39° C. till Jan. 1, then liquids by mouth. Gauze gradually removed, beginning on 9th day. Drain removed 23d day; flow of stomach-contents from wound lessened and ceased Feb. 15; left hospital Feb. 17. March 26, eats, digests and feels well; no pain.
Acute general peritonitis.	High up under liver.	On opening abdomen lymph and commencing pus formation above colon; lymph removed; abdominal cavity flushed; glass tube in Douglas' pouch.	T. 100.8° F. day after operation; tube removed 3d day; pus from abdomen 10th day; subsequent progress uninterrupted.
Cold, collapsed, pupils dilated; T. 97° F.; P. 100; no distention but great pain and tenderness in epigastrium and left hypochondrium.	Posterior wall near cardia.	Incision parallel to margin of ribs. Stomach looked normal; indurated area felt, pulled into view, ulcer excised; 14 Lembert sutures.	Rectal feeding till 6th day; 12th day, pain in stomach radiating to back; grew worse; abdomen opened; adhesions broken up. Great collapse but eventual recovery.
Extreme collapse and intense pain; abdominal walls fixed, slight distention; no loss in liver dulness; P. feeble and rapid.	Anterior surface of cardia near esophagus.	Median incision; escape of gas; edges of ulcer pared; 1-inch elliptical opening closed by 2 rows Lembert sutures; abdomen flushed with hot water; glass drain.	Night of operation P. 130, feeble; R. 56; T. 101° F.; vomited twice. Gradual improvement. Vomiting several times on the first days after operation. Food by mouth on 5th day. Left hospital on 16th day in excellent health.

NO.	OPERATOR.	REFERENCE.	AGE AND SEX.	DIED OR RECOV.	PREVIOUS HISTORY.	CHARACTER OF ATTACK.	HRS. BEF. OPERAT.	DATE OF OPERATION.
39	Kirkpatrick, R. C.	*Practitioner*, London, Aug., 1897, 157.	20 F	R	For some time capricious appetite and poor general health.	Sudden, severe pain in epigastrium followed by faintness.	4	March 3, 1897.
40	Le Dentu.	*La France Méd.*, 1897, xliv, 295.	. .	R	. . . .	. . . .	26	. . . . .
41	Lejars. Reported by Courtois-Suffit.	*Bull. et Mém. Soc. Méd. de Hôp.*, 1897, 3 S., xiv, 1291.	29 F	D	Pain in region of stomach, vomiting, profuse hematemesis for more than 1 year.	Extremely violent pain in epigastrium, radiating over entire abdomen.	21 days	Aug. 6, 1897.
42	Lindner.	*Med. Press and Circ.*, Mar. 30, 1898, 334.	30 F	R	Ill for long time; vomited nearly all food.	. . . .	. .	. . . . .
43	Littlewood, H.	*Lancet*, 1896, ii, 1444.	18 F	R	Troublesome dyspepsia 4 or 5 years.	Sudden, severe pain in epigastrium; collapse.	7	May 2, 1896.
44	" "	" " "	18 F	R	Some time previously 2 attacks; profuse hematemesis.	Sudden intense pain in abdomen; greatly collapsed.	6	July 21, 1896.
45	Lundie, R. A.	*Edinb. Hosp. Rep.*, 1896, iv, 485.	24 F	R	Severe indigestion for 2 years; pain about 1 hour after food, followed by vomiting, which gave relief.	Agonizing pain which came on about 1 a.m. in left epigastrium and spreading down over abdomen.	ab't 10	Oct. 20, 1894.
46	Makins, G. H.	*Brit. Med. Jour.*, 1897, i, 914.	17 F	R	For 2 years gastric pain after eating; no hematemesis.	Sudden, severe pain in upper part of abdomen.	24	Oct. 14, 1896.
47	Marten, R. H.	*Australas. Med. Gaz.*, Sidney, 1897, xvi, 429.	20 F	R	For 6 weeks dyspeptic symptoms and epigastric pain; worse after eating; relieved by vomiting; never hematemesis or melena.	About 10 a.m. sudden, agonizing, burning pain in upper abdomen, radiating to both hypochondriac regions.	6	July 7, 1897.
48	McCosh, A. J.	*Med. News*, 1897, lxx, 80; also *Med. and Surg. Rep. Presbyterian Hosp., N. Y.*, 1897, ii, 28.	35 F	R	For 18 months disturbance of digestion; occasional nausea and vomiting; frequent severe colicky pains; some abdominal distention; loss of flesh and strength.	Oct. 24, 1895, nausea, vomiting, abdominal pain particularly in epigastrium, continuing till Nov. 4, when it became very severe; abdomen distended, rigid, tender. Operation advised and refused.	22 d.(?)	Nov. 26, 1895.
49	" "	*Med. and Surg. Rep. Presbyterian Hosp., N. Y.*, 1897, ii, 28.	21 F	R from oper. D from other caus.	In Jan., 1895, 3 weeks' illness, with gastric ulcer.	Oct. 28, 1896, severe pain in left side; Nov. 4, second attack of pain, increasing till Nov. 7.	4 d.(?)	Nov. 8, 1896.
50	Monod. Reported by Apert, E.	*Bull. Soc. Anat. de Paris*, 1897, lxxii, 904.	23 F	D	Acute pain in abdomen for 4 years; never gastric trouble, vomiting or pain; digestion normal.	Acute pain in left hypochondrium without any appreciable cause.	5 days	Nov. 24, 1897.
51	Morgan, G. B.	*Brit. Med. Jour.*, 1896, i, 1443.	22 F	R	Treated for gastric ulcer 3 years ago; had free hematemesis; since then careful diet and fairly well.	Sudden pain in left side on stooping.	24	Feb. 20, 1896.
52	Morgan. Reported by Willcocks, F.	*Clin. Jour.*, London, 1897-98, xi, 192.	27 F	R	Dyspepsia for 1 or 2 years; violent hematemesis 3 or 4 weeks before.	Sudden intense pain in stomach; collapse.	at once.	Nov. 6, 1897.
53	Morse, F. H.	*Brit. Med. Jour.*, 1897, i, 389.	21 F	R	Dyspepsia 2 years ago.	On lifting arms while sitting, sudden, severe pain in left hypochondrium, which spread over entire abdomen.	4½	Oct. 24, 1895.
54	" "	*Brit. Med. Jour.*, 1897, i, 389.	22 F	D	Anemic and dyspeptic for some time.	Violent pain in abdomen, just left of ensiform, while working.	24	. . . . .
55	Ochsner, A. J.	*Chicago Med. Reporter*, 1898, xiv, 205.	26 F	D	. . . .	Severe pain in region of stomach while hanging up clothes.	day after perf.	. . . . .
56	Ogston. Reported by Finlay.	*International Clinics*, Phila., 1896, 6 S., iii, 73.	24 F	D after 3 wks R from oper.	Pain and flatulence after eating, occasional vomiting, one attack hematemesis.	Sudden severe pain after drinking hot lemonade.	ab't 12	May 29, 1895.
57	Page, F.	*Lancet*, 1898, i, 930.	21 F	D	Gastric symptoms some years; never hematemesis.	Severe abdominal pain and vomiting.	36	Dec. 15, 1897.

CONDITION AT OPERATION.	SITE OF PERFORATION.	OPERATION.	REMARKS.
Pale, collapsed; abdomen generally tender, especially left epigastrium. Liver dulness present.	Anterior wall, 4 in. from cardia near lesser curvature.	Median incision; escape of gas and stomach contents; edges of ulcer drawn together with continuous silk suture followed by Lembert suture; sponging with gauze; rubber drain. Incision above pubes; glass tube inserted; 1 pint turbid serum washed out; flushing with warm salt solution. Operation less than 1 hour.	Fed by mouth in 24 hours; uneventful recovery; discharged on 35th day. Cultures from peritoneal cavity were sterile.
. . . .	Anterior wall near pylorus.	Unable to suture perforation; peritoneal cavity walled off with gauze; drainage.	. . . .
Abdomen very painful and tender on pressure; slight edema of abdominal wall.	2 perforations; anterior wall near lesser curvature and posterior wall exactly opposite.	On incision escape of great amount very fetid gas and yellow ichorous pus, about 1 liter, removed; flushing with boiled water; drainage.	After operation temperature fell and until 4th day unretarded recovery looked for; then abdominal pain, collapse, death.
. . . .	. . . . .	On opening abdomen inflammatory tissue met; stomach drawn upward and backward by adhesions to liver, adhesions separated with difficulty; cavity found communicating with stomach by small opening; resection of whole of inflamed tissue.	. . . .
Collapse partly recovered from; T. normal; P. 120; abdomen greatly distended, resonant; liver dulness obliterated; breathing thoracic.	Middle anteri'r surface near pylorus.	Median incision below umbilicus; escape of odorless gas; flakes of purulent lymph on omentum and intestines; no perforation in lower abdominal cavity. Incision prolonged upward; contents of stomach found escaping from perforation; abdominal cavity sponged; ulcer excised; Lembert stitches; drain.	Rectal feeding 7 days. Discharge from drainage tube became purulent on 11th day; syringing with creolin mixture; on 19th day thrombosis of leg; T. 102° F.; swelling and pain gradually subsided; T. normal on 26th day.
Recovered from shock; P. rapid, good quality; R. thoracic; abdomen distended, resonant; liver dulness obliterated; pain most marked in lower umbilical region.	Anterior surface near lesser curvature, 3 in. from pylorus.	Median incision; escape of odorless gas and yellowish-white semi-purulent fluid; thickened edges of ulcer excised; Lembert sutures; abdominal cavity sponged with sterile salt solution; drain.	Rectal feeding 2 weeks; wound healed and patient up after 5 weeks.
Face pinched, anxious expression; severe abdominal pain; P. 110, small, tense; T. 99.06°. Abdominal walls intensely hard and rigid.	Near middle of anterior wall.	Curved incision, convex to right, extending 5½ inches from ensiform; escape of gas and yellowish fluid; Lembert sutures. Irrigation with hot carbolic solution 1:120, during which patient's condition became alarming.	Gradually improved; T. never over 100° F.; rectal feeding for 3 weeks. At time of writing patient in good health.
Pale, collapsed, sunken eyes, anxious expression, hiccough; P. 120; R. 28, thoracic; abdomen slightly distended, rigid; great tenderness in epigastrium and left hypochondrium; hepatic dulness complete.	Below lesser curvature 1½ in. from esophagus.	Median incision; adhesions between liver, diaphragm and stomach; margin of perforation freshened with curet; Lembert sutures; flushing with boiled water.	Rectal feeding 6 days; meat-juice by mouth 3d day. Rise of T. and dyspnea 7th day, suggesting pulmonary embolism; consolidation of lower lobe left lung and fever for a few days, but recovered.
Pale, semi-conscious, anxious expression; P. small, thready; R. rapid, thoracic; intense abdominal pain especially in left hypochondrium; abdomen distended, rigid, tender.	Anterior wall, nr. cardia and lesser curvature.	Median incision; escape of turbid fluid; stomach sponged; Lembert sutures without paring edges; abdominal cavity sponged and flushed with salt solution; T. 106° F.; drainage tube. Condition improved during operation. From beginning etherization till in bed, 55 minutes.	Nutrient enemata every 4th hour; food by mouth 8th day. August 2d left hospital and has continued well to time of writing.
Since Nov. 4, vomiting; abdominal pain, distention, rigidity; T. 100° to 104° F.; pulsation of aorta transmitted to finger. Diagnosis: perforated ulcer with encapsulated, intraperitoneal abscess.	In lesser curvature ¼ distance from cardia to pylorus.	Median incision; liver and stomach adherent to abdominal wall; cavity entered, which contained 2 ounces frothy, purulent fluid; coagulated milk, particles of food. Abscess cavity cleansed; edges of ulcer trimmed and scraped; closed by 2 rows sutures (continued catgut and interrupted silk); careful cleansing; gauze drainage.	Nausea and slight vomiting 1st day; T. 100½° F.; P. 110; Dec. 7, pleurisy with effusion for 10 days. Discharged Jan. 10, 1896. A year later health excellent.
P. 125; R. 36, shallow; T. 103½° F.; liver dulness absent; abdomen slightly distended, rigid, tender, especially over epigastrium. Dulness over both lungs at the bases, particularly left; cyanosis.	Lesser curvature midway betw. cardia and pylorus.	Median incision; stomach adherent to parietal peritoneum; above adhesion an abscess cavity bounded by liver, diaphragm and stomach, containing about 1 quart of pus. Edges of perforation pared; closed by interrupted silk suture of mucous coat and Lembert of sero-muscular coat. Flushing with hot salt solution; gauze and tube drainage of abscess cavity.	Rectal feeding; gradual improvement. Nov. 11 to 14 evidence of broncho-pneumonia. Nov. 20 to 21 condition bad, at one time thought to be dying. Nov. 22 operation for subphrenic abscess. Necropsy: empyema, pneumonia, pericarditis. Perfect union of stomach wound. No peritonitis.
P. strong, full; T. 38.5° C.; abdomen distended, tympanitic; no vomiting.	Anterior wall.	Median incision, umbilicus to pubes; intestines red, matted, distended; large amount of fetid pus in pelvic cavity; genital organs and appendix normal; incision in left iliac fossa; gauze drainage; abdomen closed.	Abundant discharge of sero-purulent fluid; pulse became rapid; death on 3d day. Necropsy: ulcer discovered, also numerous pockets of pus; one large cavity formed by adhesions between liver, diaphragm and stomach.
Severe pain; anxious expression; P. 130; R. 40; abdomen distended, rigid, tender, particularly left epigastrium.	Anterior surface.	Median incision; stomach dilated, adherent to abdominal wall. Neither gas nor fluid in abdominal cavity; 5 catgut sutures.	Collapse recovered from and improvement till 19th day, then offensive discharge for a few days, this ceased and good recovery. April 1, practically well.
Time enough had not elapsed for development of physical signs, but abdomen very rigid.	Anterior wall near lesser curvature.	Median incision; stomach wall doubled up over ulcer and sutured with silk; abdominal cavity flushed.	Nutrient enemata for 10 days. Good recovery.
Cold, collapsed; face pale, pinched; P. 90, feeble; abdomen hyperresonant, rigid, tender; liver dulness obliterated.	Anterior surface 1 inch above attachment of gastro-colic ligament.	Incision 3½ inches left of median line, beginning at ensiform and extending toward umbilicus; contents of stomach welled out; 2 rows catgut Lembert sutures; flushing with boiled water; drain. Operation 45 minutes.	No food by mouth for 48 hours. During convalescence abscess of left pleura opened and drained from the back. At time of writing patient well and strong.
Eyes sunken; knees drawn up; P. 150; R. 50; abdomen distended, tympanitic, tender; liver dulness obliterated.	Anterior surface high up near cardia.	Abdomen opened above umbilicus, left of median line; rush of gas and welling up of bile-stained fluid mixed with curds; 2 rows catgut Lembert sutures; flushing with hot water. Operation 1 hour.	Severe shock; P. hardly perceptible; R. rapid; lived but few hours.
P. imperceptible; R. impeded by enormous abdominal distention; liver dulness absent.	. . . .	Femoral hernia opened to allow escape of gas; incision 5 inches over stomach, black decomposed blood oozing from perforation; 2 rows Lembert sutures; abdominal cavity sponged, flushed and left full of warm salt solution. Incision above pubes and 2 drainage tubes; patient improved during operation.	P. 140 and T. high after operation; patient lived 48 hours.
P. 120, regular, fair strength; R. 36, thoracic; T. 100.2° F.; abdomen painful, tense, distended, tympanitic; tenderness, especially left epigastrium; liver dulness absent.	Anterior wall nr. lesser curvature about 3 inches from pylorus.	Median incision; escape of gas and opalescent gray fluid containing lymph flakes and food particles; stomach emptied and washed through perforation; edges of ulcer cauterized; Czerny-Lembert sutures; abdominal cavity flushed with boiled water; drain. Operation 1 hour and 20 minutes.	Nutrient enemata 5 days; occasional vomiting for 3 days; pain and fluctuation in lower abdomen on 16th day, vomiting and diarrhea; abdomen opened below umbilicus. Several oz. fetid pus evacuated, drain.; temporary improvement. Death on 20th day. Necropsy: perforation of ileum.
Abdomen much distended, tender; P. 140; extremities cold.	Cardia, high up.	Median incision; large amount yellowish fluid found; 3 fine sutures passed through all coats of stomach, followed by 5 Lembert sutures. Incision above pubes and glass tube inserted; irrigation with sterile water. Operation 50 minutes.	After operation P. 170; infusion of saline solution; slight improvement, but T. rose gradually to 103.4° F., and death occurred 24 hours after operation.

NO.	OPERATOR.	REFERENCE.	AGE AND SEX.	DIED OR RECOV.	PREVIOUS HISTORY.	CHARACTER OF ATTACK.	HRS. BEF. OPERAT.	DATE OF OPERATION.
58	Page, F.	*Lancet*, 1898, i, 930.	22 F	R	No previous gastric symptoms; anemia.	After hearty tea severe abdominal pain and vomiting.	3	Jan. 7, 1898.
59	" "	*Lancet*, 1896, i, 1427.	28 F	R	For a few years gastric symptoms; on one or two occasions hematemesis.	Sudden, sharp abdominal pain, collapse, vomiting.	6	Mar. 17, 1896.
60	Pepper.	*Brit. Med. Jour.*, 1894, ii, 861.	F	D 2d perf.	. . . .	. . . .	36	. . . . .
61	Renton, J. C. Reported by Adamson and Renton.	*Brit. Med. Jour.*, 1897, ii, 453.	F	R	Indigestion with pain after meals; no vomiting.	Sudden, severe pain in left side on level of greater curvature, 1½ hours after eating. Sensitive spot below left ribs, midway between median line and side. Pain in clavicle passing up into neck.	same eve.	Nov 7, 1896.
62	Renton, J. C. Reported by Adamson and Renton.	*Brit. Med. Jour.*, 1897, ii, 453.	F	D	. . . .	Abdominal pain, collapse.	same day.	Jan. 29, 1896.
63	Routier.	*Bull. et Mém. Soc. Chir.*, 1896, N. S., xxii, 231.	39 M	D	For 3 months often vomited after eating.	. . . .	. .	Jan. 21, 1895.
64	Selby, E. W.	*Lancet*, 1895, ii, 1348.	17 F	D 2d perf.	For 3 years pain in epigastrium and middle of back after meals; rarely vomiting, never hematemesis.	Sudden severe pain starting in left hypochondrium, spreading over entire abdomen: collapse, feeble pulse, cold extremities.	near. 24	Nov. 7, 1895.
65	Shaw, R.	*Brit. Med. Jour.*, 1898, i, 815.	20 F	R	Had suffered from ulcer since Sept., 1896.	4 hours after tea sudden acute pain in stomach; spread to entire abdomen.	12	June 25, 1897.
66	Silcock, A. Q.	*Lancet*, 1897, i, 1147.	25 F	R	Sept. 5, 1895, vomiting of much blood; since then under treatment for gastric ulcer.	Whilst out for a walk seized with pain in the left hypochondriac region, vomiting and collapse.	24	July 11, 1896.
67	Strauch.	*Deutsche med. Wchnschr.*, 1896, xxii, 551.	18 F	R	Since 15 years old disordered digestion; pain after eating; occasional vomiting, but never blood.	While bending sweeping stairs suddenly felt something give away in abdomen, followed by intense pain.	8½	Feb. 5, 1896.
68	Ström.	*Norsk Mag. f. Laegevid.*, Kristiania, 1897, 4 R., lviii, 100.	47 M	R	For 8 or 10 years dyspeptic symptoms, with severe pain; for 5 years hematemesis.	Vomiting of large amount of blood followed by symptoms of limited peritonitis.	. .	Jan. 28, 1897.
69	Terrier. Referred to by Hartman.	*Revue Chir.*, Jan. 10, 1898, 78.	F	R	. . . .	. . . .	. .	. . . . .
70	Thompson, Alexis	*Lancet*, 1896, ii, 11.	45 M	D other caus. than oper.	Pain in stomach and vomiting about 4 hours after meals; occasionally blood in vomited matter and stools. Under treatment for dilatation; free HCl present.	While sitting, sudden, severe pain in the abdomen and faintness.	6	May 1, 1896.
71	" "	" " "	41 M	R	For 5 to 6 months waterbrash and discomfort after eating; occasional vomiting, but never blood.	While delivering letters (postman) sudden pain in abdomen; reached home with difficulty.	24	Feb. 26, 1896.
72	Toogood, F. S.	*Lancet*, 1898, i, 158.	21 F	R	Suffered from gastric ulcer for some months.	Sudden, acute pain in left epigastrium, followed by fainting.	14	Sept. 17, 1897.
73	Tricomi, E.	*Arch. ed. Atti. d. Soc. Ital. di Chir. Roma*, 1897, xi, 155.	41 F	R	For 12 years acute pain in epigastrium radiating to lumbar region. Exacerbation of pain after food or drink, relieved by vomiting. Condition worse during 3 years.	. . . .	. .	Oct. 1, 1894.
74	Tscherning.	*Hospitalstidende Kjöbenhavn*, Sept., 1897, p. 883.	. .	D	. . . .	. . . .	6 days	. . . . .
75			. .	D	. . . .	. . . .	. .	. . . . .
76	v. Wahl. Reported by Nissen.	*St. Petersb. med. Wchnschr.*. 1890, Nos. 41 and 42, pp. 365 and 373.	46 M	D	Attacks of severe pain and vomiting; occasionally of dark brown matter and black stools. Treated for gastric ulcer with periods of relief.	After a period of relative comfort, pain in left epigastrium, which grew progressively worse for 4 days.	4 d. (?)	Sept. 14, 1889.
77	Wallace, C. S. Reported by Hawkins and Wallace.	*Brit. Med. Jour.*, 1897, i, 914.	21 F	R	For many months pain and vomiting after meals. Never hematemesis.	Pain in upper part of abdomen became suddenly severe and spread over nearly entire abdomen.	60	Aug. 3, 1896.
78	Woolcombe.	*Lancet*, 1898, i, 1002.	. .	R	. . . .	. . . .	3	. . . . .

CONDITION AT OPERATION.	SITE OF PERFORATION.	OPERATION.	REMARKS.
Severe pain, abdomen tense; liver dulness absent.	Anterior surface, 2 perforations 1 inch apart.	Median incision; escape of gas; food and large amount of fluid in peritoneal cavity; larger perforation closed with catgut sutures through all coats, then wall of stomach turned over to include both perforations and Lembert sutures; opening above pubes; irrigation and drainage.	Vomiting and great pain first 40 hours after operation; after first week T. normal, and uninterrupted recovery.
Collapsed, pale, extremities cold, anxious expression; P. rapid and compressible; abdomen tender.	Anterior surface of cardia nr. lesser curvature.	Median incision; escape of gas; fluid from stomach in abdominal cavity; adhesions to under surface of liver. One row of sutures uniting edges of ulcer and 2 rows Lembert sutures; peritoneum washed; glass drain in Douglas' pouch.	Liquids by mouth on first day; solids on 8th day. Hiccough 1st day. Stitches removed 11th day. Left infirmary quite well, April 19. May 12, gaining in weight, continues well.
. . . .	Anterior surface near lesser curvature.	Edges of ulcer pared and sutured; abdominal cavity flushed with boric acid solution.	On 3d sudden collapse and death. Necropsy: perforation occurred originally in the anterior part of an ulcer the size of a crown; the perforation had been securely closed, but a second perforation had occurred behind this.
Considerable shock; P. 120; abdomen painful, rigid, moderately distended; superficial gurgling over upper abdominal region; liver dulness diminished.	Anterior surface.	Edges of ragged ulcer pared; double row silk sutures; abdominal cavity sponged and washed with mercuric chlorid solution 1:6000; glass drain lower end of wound.	Rectal feeding 24 hours; liquid food 1 week.
Collapse; P. rapid; intense abdominal pain; splashing sound over upper abdominal region.	Posterior surface cardia.	Abdominal cavity found in healthy condition; rupture not discovered. Next day gurgling point tapped with negative result.	Gradually sank and died. Necropsy: stomach adherent to diaphragm; thus a localized cavity formed into which the ulcer on the posterior surface perforated.
Pale, thin, cachectic; P. small, rapid; T. 36.4° C.; abdomen tense, everywhere distended; particularly in umbilical region.	Anterior surface pylorus.	Incision middle of upper umbilical region; vast pocket of pus, containing particles of food opened. Pocket extended above and below liver, bounded by colon, stomach, and abdominal walls. Perforation seated on thickened area involving entire anterior surface of pylorus; impossible to close it or to pass sound through pylorus. Pocket cleansed, packed with gauze, sound left in stomach.	Died on 8th day from inanition in spite of rectal feeding. No peritonitis; gas and stools passed.
T. 102.6° F.; P. 120, full, bounding; R. 45, thoracic; pain in back of neck and abdomen; acute tenderness; slight distention; everywhere resonant.	Anterior surface near lesser curvature below cardia and exactly opposite.	Incision outside left rectus muscle, extending 4 inches from costal margin; impossible to reach perforation; incision across rectus; ulcer excised; 8 Lembert sutures; flushing several gallons boiled water. Operation 1½ hours.	Little shock; no sickness; satisfactory condition until Nov. 9; then pain, collapse, death. Necropsy: stitches holding perfectly; 2d perforation had occurred opposite first.
Abdomen very tender, condition grave.	Anterior wall near pylorus.	Median incision; escape of gas and fluid containing lymph flakes; 2 rows Lembert sutures; sponging; flushing with boiled water; 1 pint of purulent fluid removed from Douglas' pouch; gauze; drainage. Operation 1½ hours.	For 2 d. very ill; gauze removed 3d day; T. never over 102°; normal 10 days; lower wound drained 1 week; at writing patient well and at work.
P. 100, regular, strong; R. 20, thoracic; T. 100°; abdomen distended, tympanitic, painful, tender, particularly left hypochondrium; liver dulness absent.	Anterior wall 1 to 2 inches left of middle.	Incision 4 inches, beginning 1 inch external to ensiform and carried parallel to costal border; curds found escaping from large perforation; wall of stomach reduplicated in vertical fold and stitched with silk; abdominal cavity sponged and irrigated; gauze tampon and drain.	Wound suppurated, causing some fever; otherwise uninterrupted convalescence.
Collapse, pale, weak; P. 100; T. 38.5° C.; severe pain in left epigastrium; abdomen distended.	Anterior wall of cardia far up.	Median incision; flakes of fibrin on stomach and liver; gall-stained fluid from perforation on manipulation of stomach; abdominal cavity packed off with gauze, ulcer excised; Czerny-Lembert suture passed with difficulty; stomach and liver sponged; abdominal cavity flushed.	Rectal feeding 8 days, then only fluids till 14 days. Uneventful recovery; left hospital after 3½ weeks.
Daily attacks of pain beginning under left costal border extending over abdomen and into left arm, thin, pale, looks poorly. Under 6th and 7th costal border, on ventral side of abdomen, a swelling a band-breadth in width. On administration of powders to dilate stomach this part becomes stretched.	Anterior surface fundus.	Stomach adherent to abdominal wall, also to region of 6th and 7th costal cartilages forming abscess cavity; adhesions tied off; ulcer excised and sutured. Stomach had hour-glass form with much puckering in.	Complete relief from pain; digestion good; gaining strength.
. . . .	. . . .	Suture and invagination of perforation (*Progrès Méd.*, Mar. 12, 1898) followed by anterior gastroenterostomy.	In excellent health since recovery from operation.
Pulseless, almost moribund, great pain; abdomen flat, rigid; liver dulness obliterated.	Center of anterior surface of pylorus.	On opening peritoneum, escape of gas and turbid yellow fluid; second incision across rectus to costal margin; Lembert sutures; flushing with hot boric acid solution; drainage below liver brought out in loin; incision below umbilicus and glass tube in Douglas' pouch.	For 3 d. crit. condi.; rectal feeding till 6th day; P. became rapid and irreg. 13th day. T. 100°; R. 40; abdom. opened and cellulitis found. Necropsy: perf. healed, periton. not inflam., almost entire r. lung consolid'd with pneum.
Pain and tenderness more pronounced above umbilicus; P. 85, wiry; R. 50, thoracic; T. 94.4° F.; abdom. rigid, slightly distended; liver dulness norm.	Anterior surface near lesser curvature and cardia.	Median incision; escape of gas and thin, clear, yellow fluid containing food and flakes of lymph; Lembert sutures; incision below umbilicus; great amount of turbid fluid washed out; flushing with mercuric chlorid solution 1:10,000 followed by boric acid solution; drainage.	Liquid food by mouth on 3d day; excellent recovery; convalescence prolonged by suppurating abdominal wound. After 4 months patient strong and well, 20 lbs. gain in weight.
Severe collapse; P. 130, feeble; R. 34, thoracic, shallow; intense pain in abdomen which was distended and rigid; liver dulness absent.	Anterior wall.	Median incision; free gas in peritoneal cavity; stomach adherent to abdominal wall; adhesions broken up; incision continued 3 inches along costal margin; edges of ulcer pared; 12 Lembert sutures; abdominal cavity sponged and flushed with several gallons sterile water. T. 100°; gauze drainage.	Nutrient enemata for 25 days; water by mouth from first. Patient discharged, plump, ruddy and well, Nov. 20.
. . . .	Lesser curvature.	Piece of stomach wall, size of 5-lire piece, excised, in center of which was a crater-formed ulcer with ragged edges; opening closed. Stomach adherent to left lobe of liver and pancreas.	Patient made good recovery, but pain and vomiting returned and gastroenterostomy with Murphy's button performed, giving complete relief.
. . . .	. . . .	. . . .	Death second day after operation.
. . . .	. . . .	. . . .	. . . .
Face marble white; respiration thoracic; abdomen moderately distended, rigid, tympanitic; liver dulness obliterated.	Anterior wall nr. lesser curvature.	Median incision; escape of abundant amount clear yellow fluid; serosa injected; otherwise nothing abnormal on stomach walls. Abdomen closed.	Patient grew progressively worse and died Oct. 17. Necropsy: perforated ulcer of stomach; adhesions to liver; suppurative, fibrinous peritonitis, pleuritis; edema of right lung.
Features pinched, pale, sunken eyes; P. 132; R. 44; shallow; T. 103° F.; abdomen distended, motionless, tender, particularly over epigastrium; liver dulness partially obliterated.	Anterior wall near esophagus.	Median incision; slight adhesion broken up and small amount turbid fluid and lymph masses found; Lembert suture; abdominal cavity cleansed; rubber drain. Second incision below umbilicus; several oz. turbid fluid removed from pelvis; flushing with sterile water; glass drain.	Rectal feeding for 12 days; much purulent fluid removed from glass tube. T. rose to 105° F. after operation and varied between 99° and 101° F. for 2 days; double parotid bubo on 3d day. Rise of T. on 16th day and on 18th day discharged 2 oz. pus from rectum; thrombosis of deep veins of leg on 20th day; T. fell to normal first on 36th day. Left hospital Oct. 3d, and in good health since.
Not great collapse; loss of liver dulness; little distention; fair pulse.	Middle of anterior wall 2 in. from lesser curvature.	Ulcer excised; second row sutures; graft of omentum brought over; sponging; drainage by counter-opening in loin.	Good recovery; T. never over 99° F.; drain removed end of 2d day; gauze end of 3d day.

will be seen by comparing, first, the tables of Weir and Foote and our own; secondly, in our own table the cases operated on before 1896 and those operated on since 1896.

Taking one series alone, and the most important, those operated on within twelve hours after the perforation had taken place, in Weir and Foote's table the percentage of mortality was 39.13 per cent.; of those in my own table operated on before 1896, it was 28.57 per cent.; those operated on since 1896, only 16.66 per cent. This rapid fall in the mortality of the cases operated on at the same period shows that our technic and, therefore, our results are steadily improving.

6. *The Mortality in Relation to Time of Operation.*—I have already called attention to the importance of early operation. A review of the tables of both Weir and Foote and our own still further reenforces the importance of this. If we take Table No. 1, giving the results of the whole hundred and fifty-six cases, it will be seen that the cases operated on within twelve hours, forty-nine in number, gave a mortality of 28.57 per cent. After that the mortality more than doubled within twelve hours, the mortality being 63.63 per cent. in operations done from twelve to twenty-four hours, and rose still further to 77.77 per cent. in those operated on between twenty-four and forty-eight hours. Again, if we take the operations in my own table done since 1896, the mortality under twelve hours is 16.66 per cent. It jumps instantly to 42.85 per cent. in twelve to twenty-four hours and to fifty per cent. in the second day. As in the perforation from typhoid ulcer, the essential or unavoidable mortality is only, in my opinion, that of the first twelve hours.

The evident conclusion, then, is that *if we wish to have any reasonable prospect of recovery, the case must be operated on within the first twelve hours, and practically the earlier the better.* The same rule, however, will apply to perforated gastric ulcer that applies to perforated typhoid ulcer. In the words of Abbe: "The surgeon should never be so hasty in getting at his work that he enters upon it handicapped by poor assistants, poor light, poor arrangements for irrigation or sponging, or inadequate plans for restoration from shock." And to quote Pearce Gould again: "Perhaps a little too much stress has been laid on the injunction to operate early, and not enough on the more important dictum to operate well."

Moreover, the table will show that the cases operated on after forty-eight hours were not only all in an unfavorable condition, the symptoms varying in severity from extreme discomfort, emaciation, weakness, etc., to an almost moribund condition, but that a large number of them during convalescence suffered from complications which prolonged the illness and endangered recovery; while the cases operated on within the first twelve hours, after the immediate shock of operation passed off, made uncomplicated and smooth recoveries.

I believe that when the profession at large understands *that five patients out of six can be saved by an immediate operation,* the mortality will still further diminish and that the ultimate essential mortality will not be over ten per cent.

Conclusion.—Having now finished this hasty survey, let us, in review of the entire subject, see what lessons we can learn. Less than twenty-five years have elapsed since the modern surgery of the stomach began, and I have brought to your attention already twelve different operations which are done upon the stomach.

The most striking fact in this review, next to the multiplicity of operations which have been devised, is that in at least seven of them the mortality is small or even almost nothing. These are gastrolysis, gastrotomy, gastrorrhaphy, gastroplication, gastropexy, gastroplasty, and gastro-gastrostomy for hourglass stomach. The other five operations, gastrostomy, pylorectomy, pyloroplasty, gastro-enterostomy, and gastrectomy, have all a considerable mortality, but their mortality, as seen under each heading, is constantly diminishing. Those operations in which at first three fourths or more of the patients died, have been brought to such a degree of safety that the mortality may be stated in round numbers at not over one third, or in some cases one fourth. I believe that the next quarter of a century will see such improvements in our technic and in the frequency of early operation, especially in cancer and ulcer, that the immediate mortality of the operations for these conditions will fall to fifteen per cent., or it may be even to ten per cent.

What unexpected discovery may be made comparable to antisepsis none of us knows. I do not believe with Mr. Erichsen, as he was rash enough to state a few years ago, that "surgery is a completed science." While the latter half of the nineteenth century has shown enormous strides, I believe that the first half of the twentieth century will see even greater and more wonderful improvements. Till then the one lesson for all of us is that the *hope of the patient lies in early and thorough operation.* At present, instead of doing pylorectomy for cancer, owing to adhesions, metastasis, the extent of the tumor, or the wretched condition of the patient, we are obliged to content ourselves with the makeshift of gastro-enterostomy. If we explore early, we can select a time when the patient is in good health, and then we can not only make a thorough operation by removal of the disease itself, but can remove all enlarged glands which would imperil the patient's future. I believe the time will come when carcinoma of the stomach will fall in line with carcinoma of the breast, of the rectum, of the uterus, and by early and complete operation will add new laurels to the crown of surgery by many permanent cures. I believe that ulcers will be submitted to early excision and not be permitted to destroy life by perforation or hæmorrhage.

In order to bring about this happy day, the surgeon must have the hearty cooperation of the physician. It is sometimes said that surgery has made more progress of late than medicine. I do not believe it. The triumphs of surgery, it is true, are more dramatic, but in the diagnosis and treatment of diseases of the stomach the physician is quite abreast with his brother the surgeon. When all physicians appreciate what the surgeon can do if he be called in promptly, then shall we see results that will be as gratifying as they are startling. If, by diffusing a knowledge among the profession at large of the possibilities offered by modern gastric surgery, I have done anything toward hastening that happy day, I shall be more than content.

CLINICAL OBSERVATIONS ON ACUTE SEPSIS.*

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Every physician in active practice, whether his work is limited by a specialty or takes in the great field called general medicine, will probably sooner or later encounter acute sepsis. The malady is most distressing to all concerned, and particularly so when it follows some minor surgical procedure or when it appears in the course of a seemingly trivial attack of sickness.

Judging by the common experience of most surgeons, the great majority of medical men are strangely slow to recognize the onset of this dread condition and to take alarm; so, often enough, "expectant" treatment causes the waste of precious time. Then comes the hurried call for the consultant, who is frequently informed that "there has come a sudden change for the worse without any warning whatever." Yet we know that sepsis seldom appears without warning, and that the presence of any local septic condition may be the starting-point of systemic infection or intoxication.

One cause for the failure to recognize incipient sepsis is perhaps the fact that so few authors have of late years written on the subject from a purely clinical point of view, while the literature of the pathology of sepsis has become enormous. On graduating from the medical school few of us have had face-to-face experience with acute sepsis. Later, in private practice or in the hospital, we become more and more familiar with its changing clinical picture, and we receive certain mental impressions from the cases we are called upon to treat. I shall here try to set forth my own personal observations as to diagnosis, prognosis, and treatment, probably saying nothing new, but at least supplying an individual point of view.

The first case of general acute sepsis which I had occasion to observe from its inception to its fatal issue was a gynæcological one. A young, healthy woman was operated upon by the flap-splitting method for perineorrhaphy. The edges of the wound were sutured in true apposition and there was immediate primary adhesion. From the time the patient came out of the anæsthesia she was in great pain, and this pain did not diminish. Next day the wound looked well; there was no redness and no swelling, but the patient had fever, and there was a faint yellowish look about the skin and conjunctivæ. The operator had left the case in charge of another physician who did not like to disturb the sutures. That night there occurred a chill with high fever, rapid pulse, and great restlessness and with just a suspicion of mental wandering. On the third day she was again seen by the operator, who at once removed all sutures in spite of the healthy-looking line of union, and when the edges were separated there was a gush of fœtid pus. A fatal dose of poison had, however, been absorbed, and the removal of the cause did not save the patient.

This case taught me two facts which I have had occasion to remember and prove: First, that persistent pain where there should be no tension is a suspicious symptom to be most minutely looked into; and, second, that the drainage of a septic cavity will not save the life of one who is sufficiently poisoned. From this case I also received a mental impression of unchecked, progressive sepsis which I shall never forget. There were first the pain, then the restlessness and *sleeplessness*, the expression of great anxiety, the mental confusion and delirium, the rapid emaciation, and the yellow skin. I have since learned that icterus, often so slight that one must examine minutely to observe it, is one of the very first signs of acute sepsis. It occurs in different varieties of infection—*e. g.*, by the streptococcus, staphylococcus, typhoid bacillus, and colon bacillus. When the jaundice occurs with rapid emaciation and ever so little mental disturbance it is almost certain that the case has assumed a very serious aspect. Elevation of the body temperature may be absent, and, indeed, the symptom of high temperature is often regarded with too much alarm. The worst cases I have ever seen have been those where the temperature has remained for a long time normal or even subnormal, but where there was severe prostration.

The ability to recognize sepsis may be of great importance in differential diagnosis. Acute rheumatism, for example, may very closely resemble acute osteomyelitis near a joint. Sudden onset, fever, and severe localized pain are common to both diseases, but the patient with osteomyelitis will soon show rapid sepsis by the early development of the icterus, the dry skin, the anxious expression of the features, and the great prostration. During the next few days the rapid change for the worse and the characteristic local appearances will almost force the diagnosis. In this particular disease, however, irreparable harm may be done in a very short time by the rapidly advancing inflammatory process, and it should therefore be our earnest effort to attack the malady at the earliest possible moment in order to avoid or minimize the necrosis, the crippling, the possible amputation, and the fatal sepsis. Yet we may well forgive the common antirrheumatic treatment in these cases for the first day or two because of the extremely difficult differential diagnosis before the signs of general microbic infection have appeared.

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* Read before the Association of the Alumni of Mount Sinai Hospital, January 31, 1898.

Not many weeks ago I was called to examine a woman whose physician feared that he had to deal with osteomyelitis of the humerus because for three days there had been intense pain near the shoulder, with fever and without amelioration from antirrheumatics. At the first glance it was easily seen that in spite of the fever and the pain the patient did not look in any sense septic. Her skin was of normal color, there was considerable perspiration; the urine, though concentrated and high-colored, contained no bile and neither albumin nor casts. Her physician, however, was a cautious man and thought that, as the disease had not responded to the usual remedies, there might have been a fault in the diagnosis. In spite of swelling, with great pain and tenderness and an elevation of temperature to 102° F., it was decided to delay surgical interference. The recovery of the patient without operation followed.

Individual instances of dangerous illnesses which are anatomically similar may yet differ widely as to indications for treatment and as to prognosis by reason of the clinical character of the accompanying sepsis. Let us choose the rather trite example of appendicitis. One may see case after case where medical treatment seems all that can be desired; where the symptoms, while severe, do not indicate immediate danger, and where recovery puts the seal of success upon the physician's efforts. Other patients, after a formal consultation, are operated upon at a convenient hour set for the purpose, and these too recover. One comes at last to have a flattering sense of one's own ability to treat the disease and to fancy that he has an infallible guide in pulse or temperature a certain number of hours after the onset which will tell him when to call the surgeon. At last, however, there comes a case different from the others. After its initial violence has spent itself there may be a remission of the pain and tenderness; but the patient's eyes are a little too bright, and he seems to be making a brave effort to hide his own anxiety by assuming a light and jocular air, which seems incongruous enough with his tense abdomen, rapid pulse, and costal respiration. Here the forced gayety should be regarded as a cerebral indication of sepsis akin to delirium and often its forerunner. Taken together with the other more palpable signs, it becomes, indeed, an evil omen. Such a patient should be operated upon at once, whether he has been observed for twenty-four hours or not. It is in such cases that the removal of the cause often fails to cure the disease.

The severity and danger of the sepsis will sometimes depend less upon the type of lesion and the kind of microbe present than upon the individual patient and the manner in which his organism reacts to the presence of the germs and their deadly products. The histories of previous attacks of infectious disease in a person's life may be of value in making a forecast as to the course of his present illness. The two following cases will serve to illustrate:

Case of J. F. S.—A number of years ago I took care of a professional man, twenty-five years of age, during an attack of what seemed to be acute tonsillitis. No bacteriological examination was made, for it was before the day of that useful function of the health board, so the diagnosis is not certain. The young man was unusually prostrated, and, in spite of the fact that locally the disease was mild and that the temperature rarely rose higher than 101° F., there was constant but distinct mental disturbance, occasionally becoming true delirium. I was informed that this patient had passed through other attacks of fever, and that more or less mental disturbance had been usually present. He made a good recovery from his tonsillitis, but a year and a half later I learned of his death from meningitis following an attack of sore throat.

Case of H. G.—A man, aged thirty-eight years, came to me about six years ago to have a urethral stricture treated. He had had several chills and two attacks of fever, with violent delirium, after the passing of soft instruments by himself. Until a few months ago I passed soft bougies for him about once a month, and by careful diuresis, together with the internal administration of the oil of wintergreen for a day before each instrumentation and for two days thereafter, we succeeded in avoiding infection with one exception, when the patient had a severe chill with acute retention. His stricture was in the pendulous urethra and was of the resilient variety. Because of the danger which threatened this man with each dilatation, I advised that he should have the stricture cut, and at least be rid of the need for such frequent interference. Knowing his tendency, I advised him to enter the hospital, in order that he might be fully prepared for operation and also that he might have better care during the after-treatment than he could afford at home. The internal urethrotomy was done with the usual precautions, cocaine anæsthesia being employed. The patient was at once put to bed and his kidneys flushed with water taken by mouth. The next day he had a chill and temperature to 103° F., and twenty-four hours later it was just a little difficult to engage his attention, though he was bright enough mentally when once his attention had been attracted. I knew the man so well that this symptom was observed earlier than it would have been noted by a stranger. I at once gave a bad prognosis, and the event only too well proved its correctness. The poor fellow became more and more septic, delirium, then stupor, ushering in the end on the fifth day. The post-mortem examination revealed general hæmorrhagic sepsis due to staphylococci.*

These two cases, more especially the latter, show the value of taking into account the histories of previous infections and their course, when such a history is available. To be sure, in spite of this knowledge, I lost one of the patients, but in other instances where I had been likewise forewarned the result was happier.

After diagnosticating the presence of sepsis the point of entrance must be carefully sought, for if we are to do anything at all to save the patient this focus must be first attacked. Sometimes pain will aid us in the search, and yet in other cases pain appears late, or is altogether wanting.

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* This case is to be reported in full elsewhere.

Acute septic disease of the bones or joints is notoriously painful; so, whenever fever, chills, slight icterus, wandering of the mind, albuminuria, or spontaneous hæmorrhages are coincident with pain of a severe character in a bone or joint, it is not well to wait too long before thinking seriously of operation. To be sure, one may rarely witness the incision of tissues affected by rheumatism, where a faulty diagnosis of pyogenic infection was made, but think how very common it is to see osteomyelitis treated with medicines and applications until the diagnosis is ridiculously clear! It is better to cut for rheumatism than not to cut for malignant suppuration. I have witnessed a number of operations on rheumatic structures, but have never seen an evil result because of the error, while I am sure that we have all seen the dire punishment inflicted on the poor patients who have been treated "conservatively" for acute suppuration of bone or joint.

We may, then, conclude that pain is a cardinal point in the localization of septic foci.

The infection of some regions of the body may give rise to acute and dangerous sepsis, with evanescent pain or even with no pain at all. The history of the illness may then be our only guide to show us the probable cause of the disease. Among the most treacherous and dangerous infections are those which enter by way of the male urethra. Chill or fever may usher in fatal blood-poisoning from the simple passing of a catheter, and there may be no visible local sign of trouble and no local pain or tenderness whatever. The more serious urethral infections are not necessarily those which begin with severe symptoms very soon after the instrumentation, but are usually those which develop more gradually. The sudden attacks of urethral fever are very likely due to the absorption of ptomaines, which may, indeed, kill the patient if absorbed in sufficient quantity; but the slow and progressive cases are probably due to the actual entrance of living germs into the system, the symptoms increasing in severity as the germs multiply.

In many cases of malignant puerperal fever the element of pain is unobtrusive, or even wanting altogether. Here, fortunately, the cause for the trouble is patent, and the diagnosis should be easy. Still, the fact that where latent malaria is present an attack may be brought on by a labor, has caused many errors.

It is indeed difficult, if not impossible, to describe the subtle incipiency of acute sepsis. Although of the gravest importance, the ability to recognize it is almost purely a matter of personal experience. Our science, to be sure, is an aid, but it is in just such instances as this that success depends not so much upon the science as upon the *art* of medicine.

When we have recognized acute sepsis the question arises, "What shall be done?" And the most natural reply will be, "As a first step, get rid of the cause—the infecting focus." There are two ways of setting to work to accomplish this end: one is to actually remove or ablate it, and the other method depends upon the fact that when an infected region is freely drained the system ceases in a great measure to absorb ptomaines and the microbes become less virulent. Where the diseased part is not a vital one and is comparatively useless, the wisest thing is to remove it, if possible, without delay; and where even very important structures are by their presence threatening the patient's life, the practice of removal should be entertained. All other foci of infection should be treated on the principle of drainage, either by actually opening and cleansing the parts, as in the case of abscess, or by frequently removing the discharges through irrigation accomplished mechanically or by medicines. We are accustomed to seeing this treatment employed in the entero-colitis of children and in typhoid fever.

Next to these forms of treatment come the methods which I will call germicidal. They consist in the employment of chemical substances which are fatal to germs. This germicidal method of treatment is of comparatively little value unless one is able to apply the remedy directly to the infected tissues. Our faith must therefore still be pinned on the old-fashioned methods of drainage and cleanliness, which look to the actual physical removal of infection, and our success will usually depend on our ability to accomplish this end.

The cause having been eliminated, we must turn our energies against the effect, which may be twofold. There may be intoxication from the absorption of germ products, and there may be the more serious form from the entrance of living germs into the circulating body fluids. In either case it is usually the poison which kills, and not the mechanical presence of micro-organisms. Then, too, these acute germ infections are generally self-limited diseases, and if we can fight the tissue changes caused by the toxines so as to keep the patient alive long enough, he may be enabled to overcome the attack of the living microbes. Here, again, therefore, the most obvious treatment will be to rid the system of the toxines as quickly as possible by way of the natural excretory apparatus—the kidneys, the bowels, and the skin. It must also be remembered that these organs are always more or less deranged in the presence of acute sepsis. When this effort fails, or when the patient's organism responds too feebly, and, in spite of our most desperate stimulation, we see him slipping away from us, we feel impelled to try, even as a forlorn hope, something which we pray may antidote the poison. We then turn, perhaps with little faith, to serum therapy with its various antitoxines and antitoxic serums, and surely the events of the last few years have shown that the world has something to expect from the enthusiastic labors of the army of investigators in this new field. The work is slow and beset with difficulties, and the results, as yet, are crude, but enough has been accomplished to make us impatient for more. Even when serum therapy has been employed in vain, the treatment should not be put down as a frank failure unless the proper remedy has been used to combat the particular variety of germ which was present. For example, the futile employment of streptococcus antitoxic serum in a case where staphylococci and not streptococci are the infecting agents should not be regarded as a failure.

This little essay would not be complete were I to omit mentioning a way to antidote septic toxæmia which will undoubtedly be elaborated in the future. Progress will depend upon our acquiring by experiment the knowledge of just how each septic poison kills. It is reasonable to suppose that each toxine has its specific effect, which may be studied much as we have studied and learned the effects of the various alkaloidal drugs, and it is also reasonable to suppose that physiological antidotes, and perhaps very simple ones, may some day be known enabling us actually to antagonize these toxic substances.

An interesting experiment by Lustgarten, probably the first along this line, is reported by him in a paper on The Primary Cause of Death following Burns of the Skin. Lustgarten shows that the poisoning after extensive skin burns is due to the absorption of ptomaines formed in the deeper layers and imprisoned by the surface lesion. Studying the symptoms, he finds that they resemble those of muscarine poisoning. Bearing in mind, then, the well-known antagonism of atropine to muscarine, he made use of atropine as a remedy in one case where the fatal symptom of vomiting had occurred after an extensive skin burn, and was pleased to report a cure, which was probably unique, because it has been the universal observation that in such cases vomiting was a certain indication of approaching dissolution. Twice more was the atropine treatment tried, and in each instance the effect was good, though the patient did not recover.

It seems to me that this is a move in the right direction, and I venture to predict that further investigations in the physiological action of toxines will be followed by a new system of therapy in septic disease more accurate and simple than the serum treatment.

To sum up, I may say that acute sepsis, being a most dangerous complication in any disease, should be feared, watched for, early recognized, and early treated. That the treatment should be, first, to remove as far as possible the local causes of the general infection, and that, having so far as possible removed these causes, every effort should be made to keep the patient alive and nourished, at the same time striving to cause elimination of the toxines. Finally, that we may hope for more specific and satisfactory methods of treatment in the future than we have had at our disposal in the past.

679 MADISON AVENUE.

A CASE OF CEREBELLAR ABSCESS:

*DEATH; AUTOPSY.**

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JOHN D., an Irish boy, about fourteen years old, was brought to my clinic at the Mary Fletcher Hospital in May, 1892, to be operated upon for an abscess behind his left ear. A large quantity of pus was evacuated from it through a long Wilde's incision, and a large aperture through the external wall of the mastoid process was found opening into a large cavity in the bone. The suppurating area was curetted, irrigated, and drained, but neither the mastoid antrum nor the tympanum was invaded by the operation.

On the following day the boy was removed to his home, and I did not see him again for more than a year. I was told, however, by his physician that he had not only made a rapid and complete recovery from the mastoid abscess, but that the purulent discharge from his ear had also been checked by the treatment.

In July, 1893, this patient consulted me for a recurrence of the otorrhœa, and because the wound in the mastoid had opened and was discharging. I found a fistulous tract running into the process toward the antrum, and was readily able to determine the presence of carious bone at the end of it. I advised an immediate and radical operation. Owing to other engagements, I could not operate upon him myself, and recommended that another surgeon be secured for the work. When I returned in the autumn, I was told that the boy had recovered without an operation. He had been treated with antiseptic douches and dressings.

On April 17, 1894, I saw this patient for the third time. His ear was discharging again. The attack had begun about three weeks earlier, and he had suffered from very severe pains in his left mastoid region over the left side of the base of the skull. The pain had ceased some days before he consulted me, but the ear was still discharging very freely. Neither swelling nor tenderness was found in the mastoid region, and the scar was normal. He was pale and thin, but said that he felt well. His skin had a peculiar yellowish tint. He was admitted to the hospital and remained there until he died.

The morning temperature, April 18th, was 98.5°. During that forenoon the boy had a prolonged chill, and in the afternoon his temperature had risen to 103.5°. The morning temperature on the 19th was 98.5°; the evening temperature was 102.5°. On the 20th, the morning temperature was 98.5°; the evening temperature was 100.5°. On the 21st the temperature in the morning was 104°. I opened the mastoid cells, but did not find much excepting eburnated bone. I did not trephine the skull, because my patient's condition was very unfavorable.

During the evening of the 21st he complained, for the first time, of very severe pain in the middle of his forehead. On the morning of the 22d, his mind being perfectly clear, he assured me that he was feeling very well. The otorrhœa had already diminished. His temperature was 99°. His pulse was irregular in rhythm and also in force. The variability in the strength of his pulse was sufficiently marked to attract immediate attention. The evening temperature was 102.5°. During the evening he had a second attack of pain in the middle of his forehead. On the 23d the morning temperature was 99.5°; the evening temperature was 100.5°. On the 24th the morning temperature was 99.5°.

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* Read before the Society of Alumni of Bellevue Hospital, March 2, 1898.

About 4 P. M., April 24th, I saw him alive for the last time. The otorrhœa had ceased. The wound showed no signs of repair. The boy was irritable for the first time, and wished me to let him sleep in peace. He was passing into a state of stupor. Still, he was easily aroused and replied rationally without hesitation to my questions. He was able to sit up in bed without help. I examined him with great care at this visit, as I had done at all preceding visits, for motor and sensory symptoms, and, as before, the result was negative. With the ophthalmoscope I found that the media were clear and the fundus normal in each eye. His pulse was irregular in rhythm and in force, and its strength was failing steadily. In the evening he had a short attack of pain in his forehead. About three o'clock in the morning of the 25th he was found dead in his bed.

At the autopsy, which was made by Dr. H. C. Tinkham, professor of anatomy in the University of Vermont, we found a purulent pachymeningitis over the posterior surface of the petrous portion of the left temporal bone, extending from near the internal auditory meatus to the sigmoid groove, which it invaded. The bone under this area of inflammation was carious. The sigmoid sinus was empty. Numerous small openings into the sinus were found, through which pus might have entered the blood stream. The cerebellum, where it was in contact with the area of pachymeningitis, was discolored and softened, and, adjacent to the sigmoid sinus, it was necrotic. Continuous with this necrosed cortex of the cerebellum was a large abscess cavity full of foul-smelling pus. The boundaries of the abscess consisted of softened and necrosed cortex. *The entire white matter of the left hemisphere of the cerebellum had broken down into an abscess.** The remainder of the cortex and the membranes covering the cerebellum, excepting the area of pachymeningitis already described, were perfectly normal in appearance. About an inch behind the superior extremity of the left fissure of Rolando a very small fibrous nodule was found in the pia mater. In other respects the cerebrum and its membranes were normal. Further examination of the body was forbidden.

The pain at the base of the brain and in the left mastoid region, which had ceased before the boy was brought to me the third time, the three attacks of pain in the middle of the forehead, the irritability and tendency to stupor, which I observed on the last afternoon of his life, were the only symptoms referable to his nervous system that this patient ever had. His intelligence was normal, *he was not troubled with vertigo,* and he showed no paralysis of motion or sensation, not even paresis, at any time, although I examined him repeatedly with great attention. It is somewhat singular that I did not find even a slight change in his eyes, but I am certain that there was not the faintest tendency to optic neuritis, or to paresis of any of the ocular muscles.

The abscess was complicated by pyæmia, I think. The temperature range, which in uncomplicated cases of abscess of the brain seldom rises above 100°, and the jaundiced skin were, however, the only symptoms indicating it. Further evidence might have been found, perhaps, if we could have made a more complete autopsy.

My first operation upon this boy was apparently thorough enough, if one considers only the immediate results. In similar cases I had effected a permanent cure by far less radical measures. However, the relapse, although occurring fourteen months after the operation, was due to the fact that a focus of germ life had not been removed from the ear. Observation of the course of this case, and that of other fortunately not fatal cases, has convinced me that inflammation in the mastoid division of the middle ear should be treated in the most radical way. The disease must be pursued to its farthest ramifications and thoroughly eradicated, *if possible.* Many cases of chronic suppurative otitis, in which, *apparently,* the mastoid has not been invaded, should be submitted to the same treatment. By bringing these two sets of cases under such radical management, the possibility of the occurrence of otitic abscess in the brain will be materially diminished.

Since the date of my last operation upon this case I have regretted that I did not search the cranial cavity. If I were to be confronted with similar conditions again, I would risk the chances of the operation; possibly, because we are able to control shock much more surely now than we were then—a circumstance of considerable importance in cerebral surgery. Exploratory operations upon the brain, if the wounds do not become infected, are not harmful, even though the result be negative. It seems to me, therefore, that it is imperative in all cases where cerebral abscess is suspected to search the brain for it, provided that the patient may probably endure the shock of the operation.

A CASE OF PULSATING EXOPHTHALMUS:

RUPTURE OF THE LEFT CAROTID INTO THE CAVERNOUS SINUS. CURED.*

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Mrs. M., thirty-nine years of age, was brought to consult me by her physician, Dr. La Belle, of Lewis, New York, on November 23, 1893. She stated that in May, 1893, after working hard all day, she had noticed a noise like the puffing of a locomotive at a considerable distance. She was standing in her doorway at the time and supposed that it was a locomotive that she heard. Very soon, however, she discovered that the noise was in her head. Since then it had been continuous, and it had become very distressing, especially at night. Not long after the noise began she noticed that her left eye was becoming more prominent than the right. She had not noticed any double vision. In September, 1893, the vision of her left eye became less acute than it had formerly been.

Her mother had died of some affection of the lungs; her father was still living. She had had seven children, of whom five were living still and in good health. The youngest child was five years old. From her replies to my questions, and from my examinations of the patient, I was not able to detect that she was suffering from any constitutional dyscrasia whatever. Her heart and the blood-vessels were normal. Her pulse was full and strong and regular. She was well nourished. Her skin was somewhat bronzed.

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* Macroscopic appearance. No microscopic examination was made.

* Read before the Society of Alumni of Bellevue Hospital, March 2, 1898.

She complained of a continuous noise in her head, which annoyed her very greatly. Her left eyeball was displaced forward, downward, and outward. This exophthalmus was very marked, but the patient was still able to close her eye completely. She did not complain of pain in the eye or its vicinity. The veins of the left superior eyelid were dilated, and those of the bulbar conjunctiva were engorged with blood. A slight exfoliation of the epithelium of the cornea had occurred, and the consequent failure in the transparency of that structure rendered it impossible for me to make a satisfactory ophthalmoscopic examination at that time. The pupil was normal. The movements of the eyeball were restricted in every direction. The supraorbital and the infraorbital blood-vessels were greatly dilated, and in these, especially in the supraorbital vessels, an aneurysmal thrill was distinctly perceptible. On applying the stethoscope above the eyeball, an aneurysmal bruit was very plainly heard, and also, from time to time, the *bruit de piaulement.* The aneurysmal bruit could be heard also above the *right* eye. Compression of the left common carotid artery checked the pulsations and put an end to the noises.

Rest in bed, iodide of potassium, and occlusion of the affected eye were tried for about two weeks, without producing any effect upon the disease. But the abrasion of the cornea was healed by the treatment, and I was able then to make a satisfactory ophthalmoscopic examination. I found that the retinal veins were tortuous and dilated, and that there were several small retinal hæmorrhages. There was no visible pulsation in the retinal vessels. Intraocular tension was normal. Vision was $\frac{5}{30}$. Inasmuch as the treatment had produced no effect upon the various bruits, the exophthalmus, or the other symptoms, the patient was now ready to submit to any operation that might put an end to the noises in her head.

On December 11, 1893, I ligated the left common carotid artery. On the 21st the wound was healed and all dressings were permanently removed. At this time there was no abnormal pulsation in or about the left orbit. Since the operation she had not heard any bruit or other sound in her head. The exophthalmus had diminished very much already. The bulbar conjunctiva still presented some dilated veins. The cornea, the other refracting media, and the retinal vessels were normal; the retinal extravasations had disappeared. Vision was $\frac{5}{15}$. With a stethoscope applied to the left orbit, however, one could still hear an aneurysmal bruit, and from time to time a buzzing sound. But these noises were very much less intense than they had been prior to the operation, and they could not be heard, at this time, in the region of the right orbit. The patient returned to her home on the 22d of December. Her condition improved in every respect, and she remained apparently cured for two months, when she again heard the noises in her head.

In May, 1894, she came to see me again. The exophthalmus was much less marked than it had been before the ligation of the carotid. The supraorbital and the infraorbital vessels were only slightly dilated. With the stethoscope one could perceive the aneurysmal thrill, the aneurysmal souffle, and the *bruit de piaulement.* The patient had discovered that she could stop the sounds in her head by pressing upon the side of her nose near the inner canthus of her left eye. My friend, Dr. W. W. Seymour, called my attention to this fact. I had intended to ligate the right common carotid; but, inasmuch as compression of the arteries of the collateral circulation at the root of her nose put a quietus to my patient's symptoms, I ligated those vessels instead. After those arteries had been tied, no abnormal noises of any sort could be heard about the patient's head. All pulsation had ceased about the left orbit.

The wounds healed under the first dressing. The exophthalmus had by that time subsided in a marked degree, and all subjective and objective sounds had ceased in the region of the aneurysm. The patient was cured, and she has remained cured ever since. I saw her physician in October, 1897, and he reported that the patient had not suffered any relapse whatever since the last operation; that the exophthalmus had completely disappeared, and that the patient's vision was as acute as it had ever been.

Ligation of the arteries of the collateral circulation has never been done in any other reported case of this affection. I must confess that I had very little confidence in its permanent utility in my case, but the sequel has been perfectly satisfactory in every respect.

The clinical aspects of this case indicate conclusively that a rupture of the carotid artery into the cavernous sinus had occurred. Such lesions are not common. They have been caused by traumatisms, such as fractures of the base of the skull, penetrating wounds of the orbit, etc., while in other numerous cases the rupture has occurred spontaneously. In the idiopathic cases about eighty per cent. of the patients were women. The greater number of the traumatic cases have occurred in men. In my patient I could find no reason for the existence of the lesion.

It is needless to say that the course of the disease is toward a fatal termination, and that the most satisfactory method of treatment consists in ligating one, and sometimes both, of the common carotid arteries; or, as in my case, ligating one carotid and subsequently, if feasible, tying the arteries of the collateral circulation.

THERAPEUTICS OF CARBUNCLES.

By SOL. N. ROSENBAUM, M. D.

A great diversity of opinion exists among surgeons as to whether the knife, or the application of different drugs, dressings, or poultices, should be used on carbuncles. Many surgeons, like Stimson, Parker, Beck, Gross, etc., regard incision as the only radical cure for carbuncles. I will mention a simple and painless method of treatment for carbuncles, introduced by Dr. George K. Swinburne, which I have followed at the Good Samaritan Dispensary in over two hundred cases, with uniformly successful results, never having septicæmic or pyæmic sequelæ. Before proceeding to details as to his method, I will mention several modes of treatment where the knife is employed and where non-surgical means are utilized. Stimson's method is to make a crucial incision and then scrape out the wound with a sharp spoon. Without anæsthesia this is a very painful operation, and often not all of the suppurative area is removed. Rushton Parker, in the *Providence Medical Journal* for April, 1893, introduces a method in which, under anæsthesia, he cuts through the skin around and below the diseased portion, removing the whole mass. The hæmorrhage, which is often very severe, is arrested with sponges wrung out in hot water, and the wound dressed with cyanide gauze. Carl Beck, in the *Clinical Recorder* for January, 1898, mentions a somewhat similar method of procedure. A Muzeux forceps is attached to the centre of the carbuncular mass, to grasp and steady it during operation, and a circular incision is made around and beneath the reddened area down to the deeper tissues and the mass severed therefrom. The hæmorrhage he controls by packing tightly with iodoform gauze. The wound is then covered with gauze dressing saturated with a strong solution of bichloride of mercury. Gross, of Philadelphia, makes at four opposite points subcutaneous divisions of the wounded tissue traversing the entire swelling. He then paints the inflamed area with tincture of iodine, washes with bichloride solution, and then applies adhesive plaster, leaving an opening for drainage.

Of the many local applications, Professor Verneuil, at the Paris Academy of Medicine in 1883, spoke about using a two-per-cent. carbolized spray directed on the carbuncle from a distance of about ten inches, for about twenty minutes, three or four times a day, between the sittings dressing the carbuncle with lint soaked with the same strength solution. He records successful results. McReddie, of England, in the *British Medical Journal* for January, 1889, mentions as his treatment of carbuncles the use of equal parts of iodoform and zinc oxide dusted on gauze soaked with a solution of carbolic acid, 1 to 40, and applied twice a day. He has never known toxic symptoms to arise from this treatment. Sloughs are not touched until they are completely detached from their walls. Jordan, of Birmingham, freely applies tincture of iodine to the neighboring vascular area until vesication is produced.

George K. Swinburne injects the following solution as an abortive method in those carbuncles which are soft and soggy, and has had good results:

℞ Glycerin	℥ j;
Salicylic acid	gr. 100;
Borax, Boracic acid, } āā	gr. 50.

Another method has been to inject in and about the periphery of the carbuncle a five-per-cent. to ten-per-cent. solution of carbolic acid with glycerin. Pure carbolic acid has been hypodermically injected in and about the carbuncle.

Fluid extract of arnica spread on adhesive plaster, and the carbuncle therewith strapped, has also been used.

Another therapeutic measure has been to form a blister over the diseased area, with an opening in the centre for discharge.

Painting around the base of the carbuncle with collodion, leaving a central opening, has also been employed.

Strapping concentrically, leaving the centre free, is another method.

Caustic potash has been applied to the cutaneous surface to avert the progress of inflammation and to arrest the sloughing of carbuncles.

Many ointments and lotions have been applied, as iodoform, turpentine, permanganate of potassium, carbolic solution, bichloride solution, etc.

As to constitutional treatment, iron, quinine, opium, strychnine, generous diet, etc., have been the general rule. The method which I pursue in treating carbuncles is: Fold a piece of aseptic gauze until it forms a thickness of six to eight layers, the surface area to be somewhat larger than the carbuncle to be covered. The gauze is first thoroughly saturated with Thiersch's solution, then covered with a layer of a ten-per-cent. ointment of ichthyol, and then applied to the carbuncle. A piece of rubber protective large enough to overlap the gauze is now placed on the same to keep in the moisture. A layer of cotton is placed on the protective, and then the bandage is applied and allowed to stay on for two days. When the patient returns to be rebandaged and to have the dressings renewed, the cores are found to have separated from their respective walls, and at the next redressing, which is again in two days, they are found entirely separated, and can be easily and painlessly removed. At the next visit granulation has passed the primary stage, and healing quickly results, leaving an almost invisible scar. The only constitutional treatment which I found necessary is to give cathartics, like fluid extract of cascara sagrada or castor oil, and in individual anæmic or cachectic cases, compound syrup of the hypophosphites. With this simple but very effective treatment I have summarized the following advantages:

1. Painlessness (a great factor with many patients).
2. Quickness of healing, more so than with other methods.
3. No scar or cicatrix remaining—important when carbuncles are in visible parts.

Since writing the foregoing, I have treated a patient at our dispensary who had a carbuncle situated on the median line of the back, between the scapulæ, and measuring in diameter four inches and seven eighths; including the zone of inflammation, the complete measurement reached up to seven inches. The patient was cured in five visits, coming every second day. Hardly any pain was suffered during treatment, and no cicatrix remains. This shows the great advantages to the patient and the satisfaction to the physician of my mode of treatment. I may mention that this carbuncle is one of the largest which I have ever seen at our clinics.

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Therapeutical Notes.

Rhus Aromatica in Incontinence of Urine of Children.—Dr. Ludwig Freyberger, clinical assistant to the Hospital for Sick Children, Great Ormond Street, London, recommends the liquid extract of rhus aromatica in this complaint. He records thirty cases treated with gratifying results, and says that the astringent taste and disagreeable odor of the liquid extract of rhus aromatica are sufficiently disguised by syrupus aromaticus.

The dose employed was five to ten minims for children two to five years old, ten to fifteen minims for children five to ten years old, and fifteen to twenty minims for older children.

A very convenient formula is the following:

℞ Ext. rhois aromaticæ liq....... min. 10;
Syrup. aromatici .... " 20;
Aq. destillatæ.................. ad dr. 1.

S.: Three times a day.—*Treatment,* May 12th.

Ichthyol Inhalations in Acute Laryngitis.—According to *Nouveaux remèdes,* May 8th, quoting from *Vratch,* xix, 1898, No. 8, p. 223, Cieglewicz (*Przegl. lek.,* January, 1898) has found that inhalations by means of an atomizer of a cold two-per-cent. solution of ichthyol repeated twice daily, and not too deeply inspired for fear of producing nausea and vomiting, have given excellent results. The author has used the treatment both in adults and children, in the latter in cases of false croup. No ill effects have followed.

Formaldehyde in Atrophic Rhinitis.—Dr. George L. Richards (*Laryngoscope,* May; *Atlantic Medical Weekly,* May 28th) speaks highly of formaldehyde in atrophic rhinitis: He uses it as follows: After removal, by means of a syringe and cotton applicators, of all the crusts and *débris* with a weak alkaline solution, each nostril is thoroughly washed out with a solution of formaldehyde, containing about five to ten drops of the forty-per-cent. solution to eight ounces of warm water. As it is very irritating even in dilute solutions, a preliminary spraying of the nose with cocaine is advisable. It produces a temporary sense of smarting in all of the nasal mucous membranes with which it comes in contact. At home he has one drop added to the solution which the patient uses in the douche cup for the daily cleansing. Under its use the crusts diminish in number and all unpleasant odor ceases.

Gutaud's Amenorrhœa Pills.—The following formula is given in the *Jour. de méd. de Paris,* December 19th (*American Medico-Surgical Bulletin,* May 25th):

℞ Strychnine sulphate .... ½ grain;
Iron peptonate,
Manganese lactate, } each ..... 20 grains.
Scammony,

Divide into forty pills. Two to four pills to be taken every night on going to bed.

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MEDICAL AFFAIRS IN CANADA.

Some months ago we summarized a rather pessimistic communication which had appeared in one of our Canadian contemporaries concerning the state of medical matters in the Dominion of Canada. At that time we expressed the hope—we might have said expectation—that the gloomy picture presented by the writer would prove to have been overdrawn, and so it did. Nevertheless, the physicians of Canada have their troubles. It impresses us that in the main their difficulties are very much like ours. Among them are the abuse of medical charities and the problem of interprovincial registration, with a third—club practice—that has no existence with us, save in the most infinitesimal degree. Concerning the first of these difficulties, we can not see that the Canadian situation is materially different from the one that we have to face, except, perhaps, that it apparently lacks the ugly feature of antagonism between the lay managers of the institutions and their medical officers over the matter of attempting to block the game of trespassing upon charity. Our Canadian brethren are hard at work on the problem, and we hope they will succeed in their endeavors.

As to the project of interprovincial registration, it appears to correspond to the movement in the United States to secure the validity of one State license in any other State. With us this seems hopeless of accomplishment at present and for a long time to come, but the conditions in Canada probably are more favorable, although there, too, it seems to us, there are difficulties that it will take considerable time to overcome. The impediments, so far as we understand the matter, are in each case partly natural and partly artificial. By natural impediments we mean those that involve the law of supply and demand; these are perhaps more difficult to deal with in Canada than in the United States. On the other hand, the artificial difficulties, those that consist in reconciling legal requirements of a diverse character in different jurisdictions (States in the one case, Provinces in the other), are undoubtedly harder to meet in the United States that in Canada, owing to the remarkable differences in our State requirements, ranging from none at all to the exceedingly stringent exactions of the State of New York.

The third problem, that of club practice, is, as we have said, almost unknown in the United States, although it may still rear its ugly head among us. We do not understand that even in Canada it has anything approaching in magnitude the proportions it has attained to in the United Kingdom; still, it is serious enough there to be the occasion of earnest discussion in the profession. We hope and believe that our Canadian brethren will soon succeed in mastering it.

These reflections have been prompted by the proceedings of the recent annual meeting of the Ontario Medical Association and by the burden of informal talk heard among the members in attendance. The meeting, the eighteenth, was held in the enterprising and attractive city of Toronto on the 1st and 2d of June. It was well attended, and the gentlemen present were thoroughly representative of the Ontario profession. This is equivalent to saying that they represented a professional body not excelled anywhere.

PROFESSIONAL RETICENCE.

We have of late called attention, in several small paragraphs, to the varying phases which the question of the secrecy, rightly imposed upon the physician in regard to all information that he may acquire as a consequence of his professional attendance upon a patient, may assume. As a rule, there is no difficulty in the mind of any man constituted with a normal modicum of honor, gentlemanly instinct, and the golden rule, as to what course he ought or ought not to pursue in a given case. But the matter has been complicated in a case raised by Mr. Barton in a letter to the *Lancet* for May 7th, and editorially commented upon in the issue of that journal for May 21st, under the heading of The Limits of Professional Secrecy. Hitherto, the question has been considered from the point of view that the physician's attendance is at the instance of the patient, and, therefore, whether it be gratuitous or paid for, there can be no question of his duty to the patient. There are two classes of cases, however, in which not the patient, but some third party, is the employer. This may take place in one of two ways—namely, either where a practitioner is summoned in a special instance to examine a particular patient for specific reasons, or where a physician is retained permanently by an employer to attend to the health of his employees. In the first class of cases there can not be much difficulty. Let us suppose, for instance, that a physician is summoned by an employer to see his nursemaid, whom he suspects to be suffering from syphilis, and who would, therefore, be no fit custodian for his children. Clearly, in this case, the physician can only examine the girl with her own consent, she knowing full well for what purpose the examination is to be made, and consequently by her acquiescence in the examination she releases the physician from his obligation of secrecy. If the girl appears to be ignorant of the reason of her examination, the physician should clearly insist upon first obtaining her acquiescence in his divulging the result of his examination, which would otherwise be purposeless. If she knows herself to be in the suspected condition, she will probably decline to be examined, and in that case the employer must act upon his own responsibility and, putting his own interpretation on her refusal, must decide whether he chooses to retain her with such a suspicion disproved or not.

When a physician is retained, however, in a permanent capacity to superintend the health of the employees generally, the case is somewhat different. The employer engages the physician not only from philanthropic motives, but also to protect his own interests. This may be needed in one of two directions—namely, first, by treating sickness early and thus keeping the *personnel* in good working condition; and, secondly, by removing such patients as are obviously in danger of doing individual harm, as in the case, for instance, of a patient suffering from an infectious disease—syphilis, alcoholism, etc. It is probable, as the *Lancet* says, that an employee could not recover damages from a medical man for making known to the employer that the employee was suffering from an infectious disease, such as diphtheria, for instance, provided always that the facts could be substantiated and that they were communicated without malice. The *Lancet* adds: "There could not be a valid contract between the employer (who pays for) and the attending practitioner, except as to attendance and remuneration." As a matter of legal contract that may possibly be correct, but the employer certainly engages the practitioner to supervise the health of his employees with a view to protecting his business interests, which duty clearly includes the removal of a patient suffering from infectious disease so as to avoid all chance of exposing other employees to infection, or of infecting the material upon which he works—*e. g.*, clothing, food stuff, etc. We are not, moreover, considering the question of what damages would be obtainable, or what is substantiable at law, but the ethical considerations of the practitioner's moral duty as regards strict reticence concerning his patient. And this is emphasized by the following statement of the *Lancet:* "We consider that secondary syphilis, for the purposes of the argument, should be classed as an 'infectious' disease, since through ignorance, negligence, or inadvertence it might be conveyed to other members of the household"; and we might add, in the case of factory operatives—*e. g.*, in a bakery—it would, to say the least, be filthy and disgusting, if not dangerous, in relation to the material to be operated upon. It seems to us that the solution of this difficulty lies in its being made a condition of the contract, as between employer and employed, that in the event of any employee becoming affected with any sickness which would render him or her unfit to perform the duties for which he or she is engaged, no matter whether innocently acquired or otherwise, no matter whether the disease be a zymotic, or syphilis, or pregnancy, or alcoholism, or any morbid habit, the employee waives the right to non-disclosure at the hands of the physician, unless he or she shall voluntarily retire on the physician's advice, so soon as the nature of the complaint is recognized and explained to the patient.

MINOR PARAGRAPHS.

THE ROYAL ARMY MEDICAL CORPS.

THE *Journal of the American Medical Association* for June 4th, in a leading article upon the recent concessions of the British war office to the army medical staff, says: "The United States army medical department has at the present time a difficult work before it in organizing and equipping its medical service and hospital corps, but fortunately it is not handicapped by any of the conditions which are now for the first time undergoing radical treatment in the British service. It makes its start in this war with Spain in full possession of that which has been the objective of the British medical staff for years, rank in the army and command over its own hospital corps men." This statement as regards the British service is scarcely correct. The well-grounded demand for substantive military rank and titles for the officers of the medical staff was based upon the fact that they were actually in command of a very extensive "medical staff corps," some six thousand strong, with a depot and headquarters at Aldershot, the great English military camp, where about twenty thousand troops are constantly stationed; and not only in command from a purely medical point of view, but from a military one also. They drilled their men, not only in ambulance drill, field-bearer duty, etc., but in the ordinary infantry field exercises; they exercised full regimental discipline over their men, paid them, were responsible for their clothing and rationing, as are the officers of every other regiment, and, as was stated in a note on Fighting Doctors in the May 14th issue of this journal, one of their number was sent to the school of musketry at Hythe to qualify as a musketry instructor for the corps, thus removing the last vestige of divided control and placing the corps completely under the command of the army medical staff. And yet, although they were doing in addition to their technical work all the regimental duties which fall to the lot of regimental officers of any other corps, whether infantry, cavalry, or scientific arm, they were not commissioned as military officers with regimental rank in that corps, but as departmental officers on the staff without substantive military rank or title. Herein lay the gross and crying injustice, and it is to the credit of the organization of the British Medical Association that, as a result of untiring effort and perseverance, it has been able, by controlling the supply of candidates for the necessary vacancies in the army medical service in England, to at last compel the authorities to redress it. The origin of the injustice is peculiar. When the "Army Hospital Corps" was first formed, the surgeons, detached from the former position as medical officers of the respective regiments, and placed as departmental officers on the staff, had nothing to do with the corps outside the execution of their professional duties. The corps was officered for purposes of administration and discipline by "combatant" military officers called "lieutenants and captains of orderlies." These officers were abolished on the score of expense, and the medical officers called upon to do their work. It is from this point that their claim for substantive military regimental rank very properly dated, but it has been withheld owing to strong military opposition until now.

MEDICAL ATTENDANCE ON SOLDIERS' FAMILIES.

WE learn from the *Toledo Medical and Surgical Reporter* for June that at a recent meeting of the Toledo Medical Association a resolution was passed offering to the General Citizens' Relief Committee free services to such families of soldiers as they may recommend to be in need of gratuitous medical attention. In European countries, where the army is a professional career, the army medical staff look after the wives and children of the soldiers, as well as after the soldiers themselves. But under circumstances such as ours, when in time of war private citizens are hurriedly taken away from home, leaving their families behind, it certainly seems that the patriotism so lavishly displayed should extend to looking after the soldier's kin, and the Toledo Medical Association has set a worthy example which may be widely followed with advantage.

DR. CARL SCHLEICH ON INFILTRATION ANÆSTHESIA.

DR. CARL SCHLEICH (*Railway Surgeon*, May 31st), in a paper on infiltration anæsthesia, pays the following tribute to the impartiality and progressiveness of the medical profession of the United States. He says: "I have gladly availed myself of the privilege of seeing for the first time one of my articles published in an American journal, and to most gratefully acknowledge that it was by American colleagues, especially Dr. Würdermann and Dr. Parvin, that my method was first submitted to an exact and practical test. I desire to take this opportunity of thanking those gentlemen most sincerely. It was in consequence of their American publications that my method was in extensive use in that country before it had attracted any notice in my native land. To my American colleagues I am indebted even for the favor which it won later in Germany from many prominent medical authorities. Their service to the advance of science is, for that reason, as great as my own." He lays great stress upon every one beginning his studies with simple cases and acquiring a certain technique with them before attempting more complicated operations.

In a paper on Local Anæsthesia, with Special Reference to the Infiltration Method, Dr. Martin W. Ware (*Medical News*, June 4th) thus sums up from his own experience the contraindications and limitations of this method: The following contraindications or limitations to the infiltration method suggest themselves: 1. Whenever the limits of disease are not reasonably definable. 2. In diffuse cellulitis requiring free incisions. 3. In malignant new growths, for here there is danger, says Braatz, of forcing the *materies morbi* into the lymph channels. The same danger is to be apprehended in conditions of diffuse tuberculosis. 4. Special attitudes long to be maintained during operation. On sentimental grounds, in operations requiring exposure, a general anæsthetic may be preferable. Reclus and Schleich, with their large experiences, with their respective methods, stand for the use of cocaine, as the rule, and general anæsthesia as the exception.

CHLOROSIS.

Professor N. De Dominicis (*Giornale internazionale delle scienze mediche*, April 30th) thus sums up his paper on The Ætiology, Pathogenesis, and Hæmotherapy of Chlorosis: 1. The hæmatological conditions and the general state infallibly reflect the state of the digestion. 2. Relapses are occasioned by disorders of digestion become habitual. 3. In all cases there were manifested a natural disposition and tendency to relapse. 4. In very few cases, four only, the author found organic alterations of the circulatory apparatus, though not important ones. 5. Menstrual disorders have either shown themselves little by little after the development of the chlorosis, or together with it after the digestive disorders or causes of other kinds have acted for a long time upon the patient's organism. 6. The author has treated some cases by ordinary means, and others with direct infusion of the blood of dogs. This treatment has given results better, quicker, more decisive, and more enduring than any other, but it must be understood that the patients are kept upon a suitable regimen in a rigorous but rational manner.

TWO MORE "NON-COMBATANTS."

In reference to notes we have had occasion to make about the absurdity of stigmatizing medical officers of the army and navy as "non-combatants," the following additional cases may prove of interest. There seems to be a popular opinion that, ordinarily speaking, the medical men are all more or less in a position of safety during a fight. Those who happen to be attached to the field hospitals in rear no doubt are; but besides them are some in the actual fighting line, and any medical officer below administrative rank is at any time liable to be on this duty. The first instance we quote is from the *British Medical Journal* for May 14th: "Another case of distinguished heroism is thus alluded to in the *Army and Navy Gazette* of May 7th: 'When Lieutenant Craig-Brown, 1st Battalion West India Regiment, was severely wounded in the fighting recently in Lagos, Surgeon-Captain C. Dalton, A. M. S., dressed his wounds on the spot where he was shot down midst a hail of fire. A carrier who was by his side at the time was shot dead. Another thrilling act was performed by the same officer, together with Sergeant-Major M'Killop. It was found when the company got into safe quarters that a wounded West India native had been left behind. The man was badly wounded. Captain Dalton and M'Killop at once went back, a distance of five hundred yards, into the enemy's quarters under fire, and brought the poor fellow back. Unfortunately, the man, whose name was Barrett, died. The act was none the less one of great gallantry, and, as a correspondent puts it, "at a time when some would try to make out that the army doctor is simply a civilian hanger-on to the army, it is right that all honorable men among combatant officers should rise in revolt against such a libel and injustice, which can in the long run only produce its proper result."' " The second case is from the *Echo médical du Nord* for May 15th, which says: "Dr. Abbatucci, surgeon of the second class of marine, has just been decorated for his exploits in the Soudan. The following notice appears in the *Journal officiel*: 'He singularly distinguished himself in the affair of Diagorou (Soudan), not only in tending the wounded under fire, but also in himself firing with a section of *tirailleurs* to encourage them by his example, and even in helping to serve the guns, thus lending his aid as fully as possible to the commandant of the artillery.' "

"DE PROFUNDIS"; THE LONDON ANTIVIVISECTION SOCIETY.

At the annual meeting of the London Antivivisection Society (*Science*, June 3d) the chairman expressed himself as being disheartened at the slow success of the crusade against animal experimentation. The society, he said, had to struggle against general want of sympathy, and he deplored the apathy of the public. He was further pleased to state his unqualified dissatisfaction with the act regulating vivisection, and his disapproval of the manner in which it was administered by the home office. *Science* expresses itself as "glad to note" these facts. We can hardly with truth affirm that we are overwhelmed with grief. It gives us encouragement to face our threatened dangers here when we find that the great mass of the people on "the other side," after all these years of hysterical agitation, can not be swayed to a degree of hypersentimentalism which, however creditable to the heart, is sadly indicative of something lacking in the head.

THE PHYSICIAN AND *LITERÆ HUMANIORES*.

We have had great pleasure in noting occasionally the evidences of an approaching reunion between medicine and letters. We do not, however, mean the kind of letters to which *Science* (June 3d), quoting the *Iowa Health Bulletin*, refers as emanating from certain "doctors of medicine" in support of applications for pensions, of which the following is a glowing example:

———, June 8, 1896. Dear Sir,

Yours received I treted Wm. Akens after he cum Hoam from the serfis for polypup in his nosce and Running soar in his pastur. The polypup from the nite are and exposure the wonde cum from the cick of a hoars.

———, M. D.

———, February 30, 1897. Sur,

I surtify I treted the sed sojer fum 18888 to Date —— foarmerly his stumik tub was jined to his nervious sistem but now it air rotted off cosing grate expectoring and hard of breth. Your Obt. servent

———, M. D.

We take this seriously, for we have ourselves seen letters from men legally able to style themselves M. D.

and in actual practice in various States of the Union which would bear comparison with the foregoing for absolute illiterateness. The standard of minimum educational requirements is now, fortunately, rising rapidly in all the States, but the very existence of such physicians does much to keep up the common opinion abroad that while the leaders of the profession in America are excelled by none, the "rank and file" are as a body of very inferior mediocrity. This is not true. But one very bad score in a team lowers the average immensely, and it is deplorable that such cases as this should exist at all. However, it is impossible to interfere with vested rights, and the profession in America must possess its soul in patience, sustained by the reflection that man is but mortal, and that a race to which there can henceforth be no accession must, in course of time, die out.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 4, 1898:

DISEASES.	Week ending May 28.		Week ending June 4.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	23	5	11	4
Scarlet fever	186	17	176	24
Cerebro-spinal meningitis	0	9	0	12
Measles	429	19	392	13
Diphtheria	...	..	159	23
Croup	8	1	7	3
Tuberculosis	220	155	154	127

Dr. S. Busby Allen and the Manhattan Eye and Ear Hospital.—We have received a printed communication from Dr. Busby Allen containing correspondence between himself, the secretary to this institution, and Dr. Frank N. Lewis, in which he complains that the latter gentleman wanted him to resign his appointment as assistant surgeon to that institution on the ground that he was disloyal to the clinic for refusing to sign a petition against the "Dispensary Bill."

In his letter to the secretary Dr. Allen details the circumstances leading to this request and states that prior to entering the service of Manhattan he practised general medicine in the neighborhood for seventeen years in a very large practice, about half of which was among the poor—not the wretched poor, but people paying from fourteen to thirty dollars rent. Amid the depression caused by continually witnessing the physical and moral degradation, due mostly to lack of thrift and the drinking habit, one bright spot ever remained. The honesty of these poor people was wonderful; if they were only treated decently and a bill rendered commensurate with their power to pay, they would pay sooner or later. When he came to serve at the Manhattan he was utterly astonished to find this same class of people crowding the clinics, more than half of the clinic being composed of them. Very many were from his own neighborhood, being people he had known for years, and in many instances patients of his. In most cases he knew who was their doctor and was familiar with their circumstances. Here they were crowding the clinic, and trying to get something for nothing, being debauched by a misguided charity. The very groundwork of their self-respect was being sapped. This would, he thought, enable the board to understand why he felt so warmly upon the matter. Dr. Allen further complains that whereas his appointment came from the secretary and his resignation was directed to be sent to him, Dr. Lewis had stated in conversation that Dr. Allen's appointment was at Dr. Lewis's pleasure.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending June 4, 1898:

Small-pox—United States.

Hurricane Bayou, Ala	May 14–28	2 cases.	
Mobile, Ala	May 14–28	2 "	
Pensacola, Fla	May 15	1 case.	
Macon, Ga	Jan. 25–June 1	100 cases,	3 deaths.
Laurel, Miss	May 28	3 "	
Shubuta, Miss	To May 28	40 "	
Wilson County, N. C.	May 28	1 case.	

Small-pox—Foreign.

Ghent, Belgium	May 7–14		1 death.
Prague, Bohemia	May 7–16	2 cases.	
São Paulo, Brazil	March 1–31	43 "	9 deaths.
Halifax, Canada	May 14–28	6 "	
Hong Kong, China	April 2–23	11 "	5 "
Newcastle-on-Tyne, England.	May 7–14	1 case.	
Bremen, Germany	May 7–14	1 "	
Calcutta, India	April 9–23		8 "
Madras, India	April 16–29		5 "
Christiania, Norway	May 1–14	5 cases.	
Moscow, Russia	May 1–7	16 "	3 "
Odessa, Russia	May 1–16	10 "	3 "
Riga, Russia	March 1–31		5 "
St. Petersburg, Russia	May 1–7	20 "	4 "
Warsaw, Russia	May 2–9		8 "
Puerto Cabello, Venezuela	March 23–April 28.	45 "	15 "

Cholera—Foreign.

Calcutta, India	April 9–23		66 deaths.
Madras, India	April 16–29		6 "

Yellow Fever—Foreign.

Araraguara, Brazil	March 1–31	4 cases,	3 deaths.
Jaboticabal, Brazil	March 1–31	35 "	16 "
Ribeirão, Brazil	March 1–31	21 "	3 "
Rio Clara, Brazil	March 1–31	9 "	4 "
Rio de Janeiro, Brazil	April 8–15	96 "	74 "
Santos, Brazil	March 1–31	32 "	13 "
São Carlos, Brazil	March 1–31	177 "	47 "
São Paulo, Brazil	March 1–31	2 "	
Santo Domingo, Santo Domingo	May 7–14	1 case,	1 death.

Plague—Foreign.

Shanghai, China	April 21	1 case on board S. S. Glenturret from Hong Kong.
Bombay, India	April 26–May 3	263 deaths.

Appointment of Residents to Philadelphia Hospital.—"Blockley" Hospital, with its four thousand beds and immense facilities, is looked upon by the different medical colleges here as being one of the most thorough hospitals for equipping recent graduates in their chosen profession that can be found in the country. Each college annually tries to secure as many appointments as possible, and "quizzes" are pursued looking to this especial end. This year twenty-five vacancies occurred on the hospital staff, and at the recent competitive examination ninety-five applicants presented themselves for examination. Fifty-five were from the University of Pennsylvania, twenty from the Medico-chirurgical College, and seven from the Jefferson Medical College. The total number also includes seven women, but none of the latter were appointed on account of not receiving the necessary average of seventy. Of the successful candidates, fifteen were from the University of Pennsylvania, and ten from the Medico-chirurgical College.

The failure of the candidates of the Jefferson College is considered by Dr. Chapman, one of the professors, as due to the fact that this year marked the era of the fourth-year course, and most of the graduates came from other colleges, the majority of them not presenting themselves for final examination on account of the high average demanded by the latter college.

Bellevue Hospital Medical College.—We are informed that the following-named professors have tendered their resignations: Dr. F. S. Dennis, professor of surgery; Dr. Austin Flint, Sr., professor of physiology; and Dr. Samuel Alexander, professor of genito-urinary diseases.

Comparative Sterilization Methods.—Dr. Eduard Boeckmann (*Journal of the American Medical Association*, June 4th), in a paper presented to the American Academy of Railway Surgeons, makes the following summary of methods of sterilization adopted respectively in England, Germany, and France:

Sterilization of Instruments.—The English school requires immersion for two or three hours before operation in a 1-to-20 carbolic-acid solution. The German school requires boiling for five minutes in one-per-cent. solution of carbonate of sodium. The French school includes prolonged boiling in a half-per-cent. carbonate-of-potassium solution, dry heat, and a variety of other methods.

Skin Sterilization.—English method: This includes shaving, scraping, thorough washing with soap and a mixture of 1-to-20 carbolic-acid lotion containing 1 part in 500 of corrosive sublimate in solution, saturation of the surface with turpentine, and then again thorough washing with soap and the above mixture, employing a nailbrush; a five minutes' performance. German method: This requires shaving, scraping, washing, and brushing with soap and warmest possible water, then drying with sterile gauze, saturation with eighty per cent. alcohol, and brushing with 1-to-2,000 sublimate solution. French method: This is accomplished by shaving, scraping, washing, and brushing with soap and sterile (filtered) water, saturation with ether, and then brushing in a 1-to-2,000 sublimate solution.

Sutures and Ligatures.—English school: Silk is kept for a few days in 1-to-20 carbolic-acid solution. Catgut is soaked in the same solution for at least a week. German school: Silk is sterilized by steam or by boiling; catgut by chemicals. French school: Silk is sterilized by boiling, first in filtered water, then in antiseptic solutions, and finally steamed in the autoclave. Catgut is sterilized by dry heat.

Dressings.—English school: Gauze is impregnated with antiseptics. German school: Gauze is sterilized by ordinary steam (low). French school: Gauze is sterilized in autoclave (high steam).

Another Decision against Osteopathy.—We learn from the *Medical Review of Reviews* for May 25th that in the case of William Hartford, an osteopath, prosecuted by the State of Utah for practising medicine without a license, Judge H. H. Rolapp decided for the State.

The New York Academy of Medicine.—At the last regular meeting, on Thursday evening, the 2d inst., Dr. Albert Frey, of Newark, was to read a paper on The Successful Treatment of Hæmophilia by the Injection of Serum, which was to be discussed by Dr. F. P. Kinnicut, Dr. M. P. Jacobi, Dr. N. E. Brill, Dr. H. D. Chapin, and others.

The St. Louis Medical Society.—At the regular meeting held on Saturday evening, the 28th ult., Dr. L. Bremer was to read a paper entitled Aphorisms on the Physiology and Pathology of the Blood, and Dr. Otto Sutter was to present cases illustrative of brain surgery.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 4th inst., Dr. C. M. Nicholson was to read a paper on A Case of Orchidopexy complicated by Hernia.

The Columbian University.—The seventy-seventh annual commencement of the medical school was held in Washington, on Wednesday, June 1st.

The Journal of Tropical Medicine.—According to the *Medical Record* for June 4th, Mr. James Cantlie and Dr. W. J. Simpson are to jointly undertake the editorial management of a new special medical journal to be published in London by John Bale, Sons, and Danielsson.

Deaths in Philadelphia for Week ending June 4th.—During the week ending June 4th there have been 406 deaths, a decrease of 3 from the previous week, and an increase of 39 over the same period of last year. The causes of death were: Scarlet fever, 2 deaths; typhoid fever, 7 deaths; diphtheria, 15 deaths. Last week there were from scarlet fever, 4 deaths; typhoid fever, 8 deaths; and diphtheria, 15 deaths. Of the total number 120 occurred in children under the age of five years.

Changes on the Staff of the Pennsylvania Hospital, Philadelphia. — At the Pennsylvania Hospital Dr. James Wister becomes chief surgeon in place of Dr. W. J. Roe, whose term of office expires next month. Dr. Clarence Leidy is promoted to the position of surgeon on the staff.

The Military Appointment of Dr. Guiteras.—Among the different officers recently appointed by the government as surgeons in the United States army may be mentioned Dr. John Guiteras, professor of pathology in the University of Pennsylvania. This distinction was conferred upon him while he was away on duty in Tampa, Florida, where he was recently sent by the government to give proper instructions in regard to the prevention of yellow fever in the army during its forthcoming campaign. Dr. Guiteras will accompany the army through Cuba.

The Minnesota State Medical Society.—The Section of the Practice of Medicine will be held in St. Paul on June 15th, 16th, and 17th, under the chairmanship of Dr. Charles Lyman Greene, of St. Paul. The programme includes the following papers: Bicycle Therapeutics, by Dr. C. H. Hunter, of Minneapolis; Diabetes Mellitus, by Dr. J. G. Cross, of Rochester; Leucæmia, by Dr. Hugh F. McGaughey, of Winona; The Treatment of Tuberculosis, by Dr. C. A. Haas, of St. Paul; A Staggering Coincidence, by Dr. F. W. Epley, of New Richmond; The Treatment of Pneumonia by Pilocarpine, by Dr. E. J. Davis, of Mankato; The Treatment of Pneumonia by Cold, by Dr. H. Wernicke Gentles, of

Chicago; Points in the Differential Diagnosis of Ascites, by Dr. Arthur R. Edwards, of Chicago; Adenoids in their Relation to General Disease, by Dr. Albert C. Heath, of St. Paul; The Value of the Diazo Reaction in the Early Diagnosis of Typhoid, by Dr. J. P. Barber, of Minneapolis; Widal's Test in the Diagnosis of Typhoid, by Dr. L. B. Wilson, of Minneapolis; Two Cases of Appendicitis treated by Calomel and High Injections, by Dr. P. A. Walling, of Park Rapids; Appendicitis from the Standpoint of the General Practitioner, by Dr. Theodore L. Hatch, of Owatonna; A Case of Valvular Heart Disease of Unusual Interest, by Dr. T. A. Conley, of Cannon Falls; Lead Poisoning from an Uncommon Source, by Dr. Franklin A. Dodge, of Le Sueur; Subcutaneous Emphysema occurring during the Act of Vomiting, by Dr. A. W. Dunning, of St. Paul; Induced Abortion, Sepsis, and Anurea lasting Eleven Days; Death, by Dr. Andrew Henderson, of St. Paul; Myxœdema, by Dr. Walter Ramsey, of St. Paul; and Landry's Paralysis—Complete Respiratory Paralysis; Life maintained for Forty-two Days by Artificial Respiration—Spleno-medullary Leucæmia — Pernicious Anæmia, by Dr. Charles Lyman Greene, of St. Paul.

Leprosy in Cuba.—Dr. William T. Corlett (*Cleveland Medical Gazette,* May) says that lepers may frequently be seen on the streets of Havana, and in the shops mild forms of the disease may be occasionally seen. After referring to the occasional presence of lepers in most of the hospitals of Europe, the author says that the danger of contact is regarded as similar to that of syphilis, to which the disease bears many points of resemblance. After inoculation the person remains in a normal condition of health for a variable length of time, which may be months or years. Finally, however, the germs of the disease develop and produce their unmistakable train of symptoms. He refers to the two forms, the tubercular and the neurotic, and remarks upon the treatment, regarding Chaulmoogra oil as the best medicinal measure, and enforces the necessity of segregation as the only means of exterminating the disease. As to the danger, he says, of commingling with lepers, the sensational reports of Father Damien, who contracted the disease while acting as a missionary in the Sandwich Islands, are familiar to all. Yet with care, and with understanding of the method of propagation, one may associate with lepers with but little danger. Neither is there danger in allowing lepers to remain in a community, provided they are not brought into intimate relationship with those not affected. Care to cover all denuded surfaces with flexible collodion or other protective is imperative. Care to use no drinking vessel, pipe, or other substance handled by lepers is equally necessary to avoid the disease. The paper currency in circulation in Cuba is a source of danger, and care in handling it should not be lost sight of. Finally, it should be borne in mind that anything which tends to lower the general vitality of the body predisposes to the development of the disease.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Surgery, on Tuesday evening, the 7th inst., Dr. F. H. Willmer was to read a paper on The Use of Nosophene and Antinosine in Disease of the Middle Ear; Dr. Marshall Clinton was to present a case of fracture of the skull; and Dr. H. E. Hayd and Dr. C. P. Smith were to exhibit specimens.

Changes of Address.—Dr. J. Glen Allan, to 141 Noble Street, Brooklyn, N. Y.; Dr. J. C. Shaw, to 142 Clinton Street, Brooklyn, N. Y.; Dr. Frank E. West, to 172 Clinton Street, Brooklyn, N. Y.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 29 to June 4, 1898:*

ANDERSON, C. L. G., Acting Assistant Surgeon, United States army, will proceed from Hagerstown, Maryland, to Newport News, Virginia, and report for duty with Light Batteries A and C, Pennsylvania Volunteers.

BOOTH, A. R., Acting Assistant Surgeon, United States army, is relieved from duty at New Orleans and ordered to Tampa, Florida, for duty with the United States troops at that place.

CRAMPTON, LOUIS W., Major and Surgeon, will proceed to Tampa, Florida, and report in person for duty to SHAFTER, WILLIAM R., Major General, United States Volunteers, commanding the Fifth Army Corps.

DARLING, JOHN B., Acting Assistant Surgeon, United States army, will proceed from St. Paul to Fort Snelling, Minnesota, and report for duty.

DE LA CALLE, EZEQUIEL, Acting Assistant Surgeon, United States army, will proceed from Washington to Tampa, Florida, and report to the commanding general, Seventh Army Corps, for assignment to duty.

DABNEY, T. S., Acting Assistant Surgeon, United States army, is relieved from duty at New Orleans and ordered to Tampa, Florida, for duty with the United States troops at that place.

HARVEY, PHILIP F., Major and Surgeon, will proceed to Tampa, Florida, and report in person to SHAFTER, WILLIAM R., Major General, commanding the Fifth Army Corps, for assignment to duty as chief surgeon of one of the divisions of that corps.

HAVARD, VALERY, Major and Surgeon, will proceed to Tampa, Florida, and report in person to WHEELER, JOSEPH, Major General, United States Volunteers, commanding the cavalry division at that place, for assignment to duty as chief surgeon.

JOHNSON, BURKE L., Acting Assistant Surgeon, United States army, will proceed from Kenton, Ohio, to Fort Thomas, Kentucky, and report for duty in the general hospital at that place.

KENDALL, WILLIAM P., Captain and Assistant Surgeon, is relieved from duty at Fort Brown, Texas, and ordered to duty with the Ninth Cavalry in the field at Tampa, Florida.

MANN, A. H., Acting Assistant Surgeon, United States army, will proceed from Springfield, Illinois, to Key West, Florida, and report for duty in the general hospital at that place.

PHILLIPS, JOHN L., Captain and Assistant Surgeon, is relieved from duty at Fort Walla Walla, Washington, and ordered to Alcatraz Island, California.

RAYMOND, THOMAS U., Captain and Assistant Surgeon, is relieved from duty at Fort Canby, Washington, and assigned to duty with the expedition to the Philippine Islands.

SHAW, HENRY A., Captain and Assistant Surgeon, is relieved from duty at the brigade hospital in the field at Tampa, Florida, and ordered to duty in the General Hospital, Key West, Florida.

Tabor, Joseph A., Acting Assistant Surgeon, United States army, is relieved from duty at New Orleans and ordered to Tampa, Florida, for duty with the United States troops at that place.

Torney, George H., Major and Surgeon, is assigned to duty in command of the United States Hospital Ship Relief.

Usher, Francis M., Acting Assistant Surgeon, United States army, will proceed to Key West, Florida, and report in person to Hall, William R., Major and Surgeon, in charge of the general hospital at that place, for duty.

Waterhouse, S. Melville, Acting Assistant Surgeon, United States army, is relieved from duty at Fort Hamilton, New York, and ordered to Fort Myer, Virginia, for duty in the general hospital at that place.

White, Robert H., Major and Surgeon. The order assigning him to duty with the Philippine Islands expedition is revoked.

Whitney, Walter, Acting Assistant Surgeon, United States army, will proceed from Chicago, and report in person to the commanding officer, Fort Sheridan, Illinois, for duty at that post.

Williams, Robert E., Acting Assistant Surgeon, United States army, will proceed from San Francisco to Angel Island, California, and report for duty; he will also render medical attendance to the garrison at Fort Baker, California.

Winterberg, W. Hoepfner, Acting Assistant Surgeon, United States army, will proceed to Alcatraz Island, California, and report for duty.

Society Meetings for the Coming Week:

Monday, *June 13th:* New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Historical Society (private); New York Ophthalmological Society (private); Lenox Medical and Surgical Society, New York (private); Harlem Medical Association of the City of New York; Gynæcological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society.

Tuesday, *June 14th:* Medical Society of Delaware (first day—Wilmington); Oregon State Medical Society (first day—Portland); New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); Buffalo Academy of Medicine (Section in Medicine); Kings County, N. Y., Medical Association; Medical Societies of the Counties of Chenango (semiannual), Erie (semiannual—Buffalo), Genesee (annual—Batavia), Oswego (annual—Mexico), Rensselaer, Schenectady (semiannual—Schenectady), Warren (annual—Lake George), and Wyoming (Warsaw), N. Y.; Newark (private) and Trenton, N. J., Medical Associations; Clinical Society of the Elizabeth, N. J., General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

Wednesday, *June 15th:* Minnesota State Medical Society (first day—St. Paul); Medical Society of Delaware (second day); Oregon State Medical Society (second day); Medico-legal Society, New York; Northwestern Medical and Surgical Society of New York (private); Medical Societies of the Counties of Allegany (annual), Sullivan (annual—Monticello), and Tompkins (annual—Ithaca), N. Y.; New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

Thursday, *June 16th:* Minnesota State Medical Society (second day); New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private); Medical Society of City Hospital Alumni of St. Louis; Atlanta Society of Medicine.

Friday, *June 17th:* Minnesota State Medical Society (third day); New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynæcological Society.

Births, Marriages, and Deaths.

Married.

Coggeshall—Pidcock.—In Clarksburg, West Virginia, on Wednesday, June 1st, Dr. Henry Tisdale Coggeshall, of New York, and Mrs. Nellie Osborne Pidcock.

Heiman—Tannebaum.—In New York, on Wednesday, June 8th, Dr. Henry Heiman and Miss Birdie Tannebaum.

Morris—Mazergue.—In New York, on Saturday, June 4th, Dr. Robert Tuttle Morris and Mrs. Aimée Reynaud Mazergue.

Shrady—Chaffee.—In New York, on Tuesday, June 7th, Dr. Arthur Melville Shrady and Miss Aline Blanche Chaffee.

Starr—Dunning.—In New York, on Tuesday, June 7th, Dr. M. Allen Starr and Miss Alice Dunning.

Stevenson — Hoffman. — In New Orleans, on Wednesday, June 1st, Dr. W. Lawrence Stevenson and Miss Louise Hoffman.

Died.

Donlin.—In New York, on Monday, June 6th, Florence, infant daughter of Dr. Edward J. Donlin.

McKee.—In Petrolia, Ontario, on Monday, May 30th, Mrs. May Weese McKee, wife of Dr. J. Fennel McKee.

Sparkman.—In Georgetown, South Carolina, on Sunday, May 29th, Dr. George E. T. Sparkman, in the forty-third year of his age.

Letters to the Editor.

THE TREATMENT OF BELLADONNA POISONING.

4803 St. Charles Avenue, New Orleans, *May 14, 1898.*

To the Editor of the New York Medical Journal:

Sir: In your issue for April 30th you published an article on the cure of a case of belladonna poisoning. The treatment included, among other things, the causing of the patient to walk and exercise himself until he finally fell on the sidewalk. Was not such a course as that contraindicated in belladonna poisoning? Would it not have been better to have let the patient rest so as to recover from the depression of overstimulation?

The text-books I have been able to consult recommend rest and morphine in belladonna poisoning.

L. J. GENELLA, M. D.

[Morphine or opium is recommended by some, but, as to rest, evacuation, stimulants, and artificial respiration are strongly advocated by most authorities, and these would certainly be in line with the energetic measures referred to. Physostigmine (calabar bean) and pilocarpine are among the most useful remedial drugs.]

A DISCLAIMER.

174 FRANKLIN STREET, BUFFALO, *May 10, 1898.*

To the Editor of the New York Medical Journal:

SIR: Will you kindly publish the following statement, which is sent to a number of leading medical journals? I have been annoyed at intervals for several years by the use of my name in an advertisement of a certain drug firm concerning eucalyptol, in spite of a formal demand to have it discontinued. I have never given this firm a testimonial, have no reason to express an opinion as to the merits or demerits of their preparation, and have scarcely had an opportunity to use such a drug, since limiting practice, five years ago. A private letter, written some eight years ago, in regard to eucalyptol—manufacturer unspecified—has been used by this firm, by means of an interpolation, to advertise their wares. Certain errors of transcription make it appear that my ideas as to nomenclature of pulmonary diseases are decidedly original. A. L. BENEDICT, M. D.

Proceedings of Societies.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of March 2, 1898.

The Vice-President, Dr. S. ALEXANDER, in the Chair.

(*Concluded from page 655.*)

A Case of Pulsating Exophthalmus.—Dr. J. H. WOODWARD reported this case. (See page 823.)

A Case of Abscess of the Cerebellum.—Dr. WOODWARD also reported this case. (See page 822.)

Dr. EDWARD D. FISHER, referring to the case of cerebellar abscess, said that the localizing value of occipital or frontal headache was not great. A lesion in the cerebellum very frequently expressed itself by pain in the forehead. Whether or not the gait was staggering depended somewhat upon the actual destruction in the cerebellum. It was not exceptional to find lesions in the cerebellum, such as hæmorrhage, in cases in which the diagnosis could not be made out by the symptoms. Naturally, one would not look for sensory disturbances, and paresis or paralysis would not be expected, except that form, associated with considerable incoordination, occasionally found on the same side as the lesion. The cases just reported were very interesting, as showing how destructive a lesion might be without any distinguishing symptoms.

Dr. C. L. DANA said that he had always found in cases of cerebral disease (*e. g.*, tumor, abscess, or sclerotic disease), if the tract going from the labyrinth to the cerebellum were injured, there would be some disturbance of equilibrium. It was possible in the case reported that this symptom might have been present and not observed. In a case of gummy tumor that he had recently seen, he had noticed that when the patient was nearly well the staggering movements had disappeared, and that the only evidence of cerebellar disease had been brought out by making the patient close his eyes and endeavor to walk straight; he invariably walked toward one side—the same side toward which he would fall when the lesion was more marked. That this had not been observed in the case under discussion might be because the abscess had been in the upper part of the hemisphere, and had not involved this tract, or the fibres had been actually destroyed by softening so that there was no irritation, as from active inflammation. A symptom of cerebellar disease which had been noted very often was loss of the knee-jerks, although it was by no means constant. The presence of an old abscess in the brain without any particular symptoms was not very rare. He had had a patient at Bellevue Hospital who had gone around and attended to the work of the ward, and had shown no symptoms except occasional staggering and vertigo. He had died quite suddenly, and the autopsy had revealed rupture of a blood-vessel into an old brain abscess. It was known that lesions of the hemispheres of the cerebellum did not necessarily cause any symptoms.

Dr. H. V. WILDMAN recalled having seen at one time, with Dr. Starr, a case that had been under his observation for two years. The diagnosis had been tumor of the anterior lobes of the brain. The patient had afterward become insane, and had died in the Pavilion for Insane, Bellevue Hospital. The autopsy had disclosed a tumor on the superior portion of the cerebellum. The diagnosis of cerebellar tumor had not been made, simply because of the absence of staggering. There had been constant and severe headache but no incoordination. The tumor had been of about the size of a walnut.

Dr. WOODWARD said that the boy, whose case he had reported, had been going about the ward in spite of chill and fever until the operation, and there had been incoordination, but not afterward. There had been pain in the mastoid region before his admission. The irritability and stupor had appeared to be due to failing strength. He had been wonderfully clear mentally until the last afternoon of his life.

The Radical Cure of Femoral Hernia, with Personal Experience with the Inguinal Method.—Dr. HENRY MANN SILVER read a paper with this title, to be shortly published.

Dr. GEORGE M. EDEBOHLS was invited to open the discussion. He said that he was glad that the reader of the paper, in so ably presenting the operative treatment of femoral hernia, had included not only the operation as performed by incision through the inguinal canal, but also the operation as done through any incision above Poupart's ligament large enough and low enough to enable one to reach the crural ring from within the abdomen. The main distinction between the two types of operation for the radical cure of femoral hernia was, that in one we endeavored to reach the crural ring, the objective point of the operation, from above, and in the other from below, Poupart's ligament. The crural ring, as we all knew, was situated immediately behind Poupart's ligament. Personally, he was of the opinion that the operation below Poupart's ligament should be the operation of choice, except under certain special indications. The operation, whether done from above or from below, should have the same object in view: to close as effectually as possible, or to obliterate, the crural ring. To close the external saphenous opening and the crural canal was not sufficient; the crural ring, the opening between Poupart's ligament anteriorly and the horizontal ramus of the pubes posteriorly, the true gateway of a femoral hernia, must be closed. All methods of dealing with the sac were good which obliterated the sac to a point well up above the crural ring.

Regarding the closing of the highest point of the crural canal, the crural ring, he said that the efforts which promised greatest success were those which approximated most thoroughly Poupart's ligament to the structures forming the posterior boundaries of the ring. Fabricius had gone so far as to detach Poupart's ligament from the spine of the pubes, so as to relax it and enable it to be brought firmly against the posterior wall of the crural ring. This method, however, he felt was entirely unnecessary, and even harmful, by weakening the external inguinal ring, whose external pillar was thereby detached. The formation of osteo-periosteal flaps from the anterior surface of the pubes, and their transplantation across the crural opening, as practised by Trendelenburg, was superfluous, and constituted a severe operation involving a tedious convalescence.

In a paper on The Inguinal Operation for Femoral Hernia, published in the *Post-Graduate,* February, 1897, the speaker had detailed his views upon, and his experience with, the operation as done from the abdominal side—*i. e.,* from above Poupart's ligament. In his cases of femoral hernia operated upon from below Poupart's ligament, he had also always made closure of the crural ring the essential of the operation. He had found that the crural ring could be readily exposed from below by the proper use of retractors. When the crural ring was but moderately dilated, its closure was readily effected by a few sutures passed through Poupart's ligament anteriorly and the periosteum covering the horizontal ramus of the pubes posteriorly, and drawn taut. In cases in which the crural ring was very patulous, he had practised incision of the periosteum forming the posterior boundary of the ring, stripping off a narrow periosteal flap from above downward, leaving the flap attached by a base as broad as the full width of the posterior wall of the ring, and sewing the free edge of the periosteal flap to Poupart's ligament with forty-day catgut. He even felt that the latter procedure—*i. e.,* sewing a small periosteal flap across the ring—could be applied with advantage even in case the crural ring was found but moderately dilated. In his opinion the periosteal irritation produced by suturing either the attached periosteum or the periosteal flap tended to close the crural ring by bone proliferation, that most effective of all barriers.

As already stated, the classical operation for femoral hernia from below Poupart's ligament should be the operation of choice, and should always be performed in the absence of special indications for operating from above Poupart's ligament.

The speaker's first inguinal operation for femoral hernia had been performed in December, 1893, with no special indication for operating from above except the supposition that the crural ring could be more effectually closed from above than from below Poupart's ligament, a supposition which further experience had proved to be unwarranted.

The special indications for the inguinal operation for femoral hernia might be enumerated as follows:

1. Whenever an indication, or indications, for opening the abdomen above the pubes coexisted with a femoral hernia. The speaker had operated twice upon this indication, in the first case performing, at the same sitting, curettage of the uterus, trachelorrhaphy, excision of painful annexa stumps, removal of a diseased vermiform appendix, ventral hysteropexy, and radical femoral herniotomy. In a second case the patient had been operated upon three years previously by another surgeon for an acute strangulated femoral hernia. Two weeks ago the speaker had had occasion to operate upon her for the cure of a ventral hernia following an operation for acute perforative appendicitis. Introducing his finger into the crural canal from within the abdomen, he had found the crural ring quite patulous, constituting a direct invitation to the redescent of a femoral hernia. He had closed the crural ring by sewing Poupart's ligament to the periosteum of the pubis and had finished by operating for the radical cure of the ventral hernia.

2. The coexistence of a complete or incomplete inguinal hernia with a femoral hernia of the same side. The speaker had operated once upon this indication, an additional reason for the inguinal operation—retroversion of the uterus—coexisting. In this case he had performed, at the same sitting, curettage of the uterus, amputation of the cervix, shortening of the round ligaments, and radical inguinal and femoral herniotomy.

3. In women, the coexistence, with femoral hernia, of a retroversion or retroflexion of the uterus which could be corrected by shortening the round ligaments. In addition to the case just mentioned, he had operated for this indication on a patient upon whom he had performed, at the same sitting, curettage of the uterus, cœliotomy for multiple papillomata of the tubes and peritonæum, inversion of the vermiform appendix, inguinal shortening of the round ligaments, and radical femoral herniotomy.

In conclusion, the speaker said he felt certain that the inguinal operation for femoral hernia, when once the above indications were accepted, would be performed more frequently in the future than in the past, especially in women.

Dr. W. B. Coley was invited to continue the discussion. He said that he had been struck with the multiplicity of operations described in the paper. He was strongly opposed to any method of treating femoral or inguinal hernia by folding or rolling up the sac, or by making periosteal flaps; the canal should be filled with normal tissues. The method of Macewen, it was true, had proved a great success in the hands of its originator, but at the Hospital for Ruptured and Crippled they had seen many relapses after this operation. These had been undoubtedly due to the suppuration of the poorly nourished sac. He did not think one was as likely to obtain primary union where the sac was folded up, either within the canal or outside of it. The ideal operation seemed to be to ligature the sac on a level with the peritoneal cavity, remove the lower portion of the sac, and, if possible, close the canal as well. In his opinion, osteoplastic flaps were entirely unnecessary. He had now employed the method of Bassini in thirteen cases of femoral hernia. The first of his operations for femoral hernia had been done in 1891 on a girl of nineteen years, with an irreducible femoral hernia. Since then he had done thirty-three operations on thirty-one patients and, with two exceptions, he had been able to trace the entire number and determine the ultimate results. In twenty cases he had carefully dissected the sac beyond the femoral ring, and had practised high ligation with excision and closure by a purse-string suture of kangaroo tendon. The suture had been introduced through the roof of the canal at the outer portion of Poupart's ligament, and had passed downward through the fascia overlying the pectineal muscle, and outward through the fascia lata over the femoral vessels, and upward again through Poupart's ligament, ending about a quarter of an inch from the point of entrance. On tying this suture, the floor of the canal had been made to come in close contact with the roof, completely obliterating the crural opening. Before doing this the sac had been dissected carefully from the crural canal. Primary union had been secured in every instance, and so far there had not been a single relapse. He had used Bassini's method in thirteen cases, with no mortality. In one case a stitch-hole abscess had developed ten days after operation, and had not healed for several weeks. After fourteen months there had been a small relapse. Fourteen of the operations had been in children under fourteen years of age, and nineteen in patients between the ages of eighteen and forty-three years. No cases had been refused operation on account of the size of the hernia, and no selection had been made. Either method, he thought, gave results so nearly perfect that they should receive preference over operations having a more complicated technique. It seemed to him that there were some important disadvantages connected with the inguinal method, particularly where there were strong adhesions. In such cases the inguinal method alone would be insufficient. His own experience, and the greater experience of Bassini, would seem to show that it was possible to obtain practically perfect results by the simpler methods. Of his thirty-three cases, one had been well at the end of six years, two after five years, two after four to five years; one had been well between three and four years after operation, six had been well after two or three years, twelve had been well after an average period of two years; two were still well after six months; two had not relapsed when seen between three and six months after the operation; two could not be traced; one had relapsed; and two had been quite recent cases. The cases that had gone beyond two years had been the only ones that could be fairly considered as cured. Some of Bassini's cases had been known to have remained cured at the end of nine years. These results went far toward proving that the simpler methods were the better. In exceptionally complicated cases, in which the abdomen had already been opened, there might be an advantage in the inguinal method, but in ordinary femoral hernia, the simpler methods of radical cure, which could be performed in fifteen or twenty minutes, met all the indications and seemed to be in every way preferable.

Dr. L. W. Hotchkiss said he had had no experience in the method described by Dr. Silver, but it seemed to him that the inguinal method was unnecessarily complicated, and was hardly the one to be chosen in ordinary cases in view of the excellent operations of Bassini and Halsted. The method of high ligation or excision, he thought, gave a more nearly flush peritoneal surface at the site of the internal ring than any extraperitoneal bolster by a rolled-up or twisted sac. In the one case there was usually a good flush surface at the site of the original hernial opening; in the other, there was liable to be a slight depression on either side of the elevation, caused by the bolster, which might become a starting-point of another hernia.

Dr. Silver, in closing the discussion, said he thought that the purse-string suture was an excellent one. Regarding the depressions on either side of the rolled-up sac, it seemed to him that the pressure would come upon either pubic bone, or on Poupart's ligament above, and that these structures being sufficiently strong there would be no tendency to the formation of a new hernia.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Meeting of March 9, 1898.

Dr. Adolph Rupp, President *pro tem.*, in the Chair.

Fæcal Fistula.—Dr. Frederick Holme Wiggin presented a case of this kind. The patient, Mrs. M. K., aged thirty-nine years, had been admitted to the gynæcological ward of the City Hospital, September 16, 1897. She had stated on her admission to the hospital that on November 10, 1896, she had given birth to a child, and that following this she had had some rise of temperature, loss of power in her left leg, and pain in the left inguinal region. In January, 1897, an abscess had been opened up in this region, and had discharged pus for about three weeks, when the wound had closed and had remained closed for a week. The tension had then become great and the wound had reopened and had discharged pus more or less constantly until her admission. Previous to her entrance to the City Hospital she had been treated in other hospitals.

On examination a sinus had been found in the left inguinal region, which had appeared to reach down into the pelvic cavity. As the patient stated that her condition was constantly growing worse, the speaker had advised that an operation be performed with a view to removing the cause of the continued suppuration.

On September 20th, the patient having been anæsthetized and prepared in the usual manner, an incision had been made with the opening of the old sinus as a centre, and it had been found that on account of the proximity of the sinus to the bony structures it would be impossible to reach the pelvis by this route. Therefore, after washing out the wound with peroxide of hydrogen and protecting it with gauze, an incision had been made nearer the median line and over the left rectus muscle, the fibres of which were separated and the peritoneal cavity opened. It had then been found that the lower part of the descending colon and the sigmoid flexure were adherent to each other and to the uterus, thus forming the inner wall of the abscess cavity. After breaking up the adhesions existing between these organs, the speaker had found that the cause of the trouble was an abscess in the left ovary, and the ovary and tube had therefore been removed. These specimens were exhibited. Ordinarily he stated that he closed the abdominal cavity entirely, after washing it out with, and leaving in, a certain amount of saline solution, but that in this instance, on account of the old sinus and the persistent suppuration which had occurred, he had placed some gauze in the old opening and, after closing the upper and the lower angles of the wound over the left rectus muscle, had passed some gauze through the remaining opening into the abdominal cavity, for the purpose of walling off the general cavity from the site of the old trouble. Two sutures had been placed through this portion of the abdominal wall and left untied. At the end of two days this last-mentioned gauze had been withdrawn, and there had been no evidence of suppuration at this time, and no rise of temperature; and, therefore, the opening in the abdominal wall had been closed by drawing together and tying the sutures already alluded to.

Two or three days later rise of temperature had occurred, and on removing the dressing and examining the wound, some stitch infection had been found to have occurred. The sutures had been removed and the wound reopened, for the purpose of getting at the infected area and overcoming it. As the wound in the abdominal wall had been opened by means of a probe, a certain amount of gas having a fæcal odor had escaped. A day or two later, after the patient had received a saline cathartic, a large amount of fæcal matter had come out of the wound. The parts had been disinfected by the use of hydrozone, and, as little or no fæcal matter had continued to escape from this time on from the abdominal wound, the speaker had decided not to operate for the closure of the fæcal fistula. At this time the patient had been very weak, and many cases of fæcal fistula were healed without operative interference. His experience had been that if the bowel was not flexed and fixed in a malposition, usually these fistulæ healed without any operative interference. On the other hand, if the bowel was fixed so that there was obstruction of the fæcal current, they would not heal until these adhesions were broken up and the wound in the bowel closed by suture.

The patient had continued to gain in health and strength, but had been annoyed from time to time by the opening of a small sinus in the centre of the abdominal incision, and from this occasionally small quantities of fæcal matter had escaped.

The latter part of January it had been decided that it would be best to operate and relieve the patient permanently from her trouble. On the 31st, after the patient had been anæsthetized and prepared in the usual manner, an incision had been made on either side of the fistulous opening already alluded to and the abdominal cavity opened. In performing this dissection much difficulty had been encountered in recognizing the different layers, as all the parts had been adherent. Finally, the abdominal cavity had been reached and it had been found that the fistulous tract ended in an opening in the lower part of the descending colon, and it had been from three quarters to an inch in length. This portion of the bowel had been twisted and bent over so that the opening, which had been longitudinal, had looked as though it had been transverse. It had been so low down that it had been with much difficulty brought to the surface. After this had been accomplished and the general cavity shut off by means of gauze pads, the opening in the bowel had been closed by means of a number of stitches, each beginning on the inside of the bowel, passing through the coats and then down through the other side, leaving the two ends in the interior of the bowel. These stitches had been placed from either end, and when the centre had been reached, following Dr. McCosh's idea, two ounces of a saturated solution of sulphate of magnesium had been injected into the bowel above the opening. The last portion of the bowel opening had then been closed with Lembert sutures. The peritoneal coat had also been brought together along the whole line of stitches by the same means. After this had been accomplished, a few drops of fifty-per-cent. solution of hydrozone had been applied to the injured portion of the bowel for the purpose of cleansing it, and after the general cavity had been washed out with saline solution the wound in the abdominal wall had been closed, leaving a quantity of the solution in the cavity.

As the patient did not rally as rapidly as was desired, she had been given an enema of a pint and a half of coffee, to which she had promptly responded. The convalescence had been uneventful, patient's bowels moving within the first forty-eight hours after the operation, and from that time on she had had practically no trouble.

The speaker thought that in these cases of fæcal fistulæ surgeons were not sufficiently bold in their operations, and instead of breaking up existing adhesions and freeing the bowel so as to rectify the malposition, thus restoring the fæcal circulation, they contented themselves with closing the fistulous opening in the gut with sutures. These sutures, so soon as pressure was brought to bear on them, cut out, and the opening consequently was reestablished. In the last two years he had had a large number of cases of this kind, and with one exception they had all recovered and their convalescence had been smooth.

Formerly the great danger involved in operations for the close of fæcal fistula was due to the infection caused by the escape of fæcal matter into the peritoneal cavity, but at the present time this danger was very much lessened by the use of peroxide of hydrogen. As soon as a little fæcal matter escaped from the bowel the effects could be overcome by applying the peroxide. Of course, care should be taken in performing these operations to shut off the general cavity by means of gauze or sponges.

Wounds in the gut healed very kindly and quickly, and the speaker stated that in his experience sixty hours was sufficient to get union so perfect that it was difficult to distinguish the regenerated peritoneal coat from the other. The speaker stated that several years ago he had had a case of intestinal anastomosis, and the patient had died sixty hours after the operation from other causes. An examination after death had shown the regeneration of the bowel wound to be perfect.

In those cases where there was much thickening of the bowel about the opening, it was preferable to remove the diseased portion of gut and to do an anastomosis, rather than to attempt to close the fistula by means of sutures. The speaker stated that a few weeks previously he had had a patient upon whom he had operated for the closure of a fæcal fistula which had followed an appendicitis operation with gauze drainage. Gauze drainage following abdominal operations he believed was often the cause of these fistulæ. In the case referred to, the bowel about the fistulous openings (which had been three in number and two inches apart) had been found, after the adhesions had been broken up, to be very thick; but, as the patient had been very feeble, and he had not wished to do a prolonged operation, these openings had been closed by means of sutures, instead of resecting the diseased portion and doing anastomosis. The patient had done well for a few days and had then died with symptoms of intestinal paresis. The patient whom the speaker presented had not had any opium during the convalescence, and he did not believe it necessary, but the other patient had.

If the opening was properly sutured in a firm way and the peritoneal coat carefully approximated, he did not believe that there was danger from moderate peristaltic action. As soon as the patient's bowels moved after the operation, convalescence was ordinarily very smooth.

He thought that generally there was a tendency to give too little nourishment and to give it too often. Looking at the patient's chart, he found that she had been given four ounces of peptonized milk, and then, after three hours, four ounces of tea. He thought that in the hospital this was the general tendency, which he had been unable to overcome. Generally, after the first twenty-four hours, he thought that the patient should have eight ounces of peptonized milk, or its equivalent, every three hours, and that as soon as the patient's bowels had acted freely and the temperature and pulse had become normal, ordinary diet should be rapidly resumed.

Gonorrhœal Arthritis, complicating Ophthalmia Neonatorum.—Dr. F. L. TAYLOR read a paper on this subject for Dr. H. C. Hazen.

True gonorrhœal arthritis in cases of ophthalmia neonatorum was of such rare occurrence that he desired to report two cases he had met with.

The cases presented very little difference in their symptomatology from the ordinary gonorrhœal rheumatism (so called) in the adult, except as running a shorter course; and, as there were no particular points of interest other than those occurring with ophthalmia in infants, he would only narrate the histories.

CASE I was that of a female child, apparently perfectly healthy at birth. On the third day of its existence it developed some inflammation of the eyes and was treated for four days by the midwife, who washed out the eyes with the mother's milk. The condition on the seventh day (of the disease), when first seen by me for treatment, was as follows:

There was a moderate degree of chemosis, a profuse purulent discharge, and considerable cloudiness of the corneæ. On further examination any attempts to move the child caused it great pain, due to an inflamed condition of the right hip joint. The hip was semiflexed. No other lesion could be found. There was no vaginal discharge; the navel was healthy and clean; no heart lesion. Three days later (the tenth day) the right ankle joint became swollen, red, and very tender; soon, fluctuation was noticed over the malleoli. About this time the right wrist joint became similarly involved. The inflammation gradually subsided in the subsequent ten days, with the use of syrup of iodide of iron and ichthyol ointment (five per cent.) externally. Under the usual treatment, cold compresses, irrigations with boric acid and solution of nitrate of silver, etc., ophthalmia disappeared, leaving, however, a leucoma of the cornea. The temperature of the child varied from 101° to 103° F. from the seventh to the seventeenth day.

CASE II.—A male child, born healthy, developed, on the ninth day, in spite of the precautionary use of silver solution according to Credé, a mild ophthalmia. This persisted for two weeks and a half. On the ninth day of its ophthalmia, the eighteenth of its life, attention was called to the right knee joint, by the constitutional disturbances rather than by any pain in the part. There was a large accumulation of fluid. This was drawn, the chief object being the examination for cocci, and the fluid did not reaccumulate. The discharge of the ophthalmic pus and the serum from both cases contained the cocci of Neisser. Some ten to twelve cases of arthritis associated with ophthalmia neonatorum had been reported, so far as he could ascertain. The majority of them showed the gonococci in the serum or pus of the exudation. The knee, ankle, and wrist joints were the usual seat of involvement, but in none was the hip joint implicated.

Dr. A. T. MUZZY said that the cases were very interesting, for while one rarely found arthritis in adult ophthalmia, yet it was known; but he did not think he had ever come across a case where in a child of that age the two conditions were together. He did not feel that he was in a position to give any points of interest. That it would be possible for such a condition to exist he could understand, but he certainly had never seen one like it in his practice. They were certainly both interesting cases, and he wished Dr. Hazen was there so that he could explain them more fully.

Dr. WALTER E. CLADEK said that arthritis neonatorum was a very rare disease. He had never seen it, perhaps because he had not looked for it. The cases were very interesting, and he would like to follow them up.

The CHAIRMAN said that it was unfortunate that the author of the paper was not present, because he might in his closing remarks have filled up the apparent lapses of his paper and corrected what might be misapprehensions on the part of those who had taken part in the discussion of it. Dr. Rupp did not think the cases reported quite as simple as represented by Dr. Hazen. The question of arthritis or rheumatism complicating ophthalmia neonatorum had rather an opinionative than a matter-of-fact aspect. Singer (of Vienna) thought he had settled that rheumatisms were septic in character and generated by streptococci and staphylococci—this might be only partially true. How much the gonococci, and how much the streptococci, etc., had to do in giving rise to the developments in Dr. Hazen's cases was not easy to determine. Dr. Rupp had had a case of an infant, the child of Hebrew parents, that had had ophthalmia of a mild but purulent type, accompanied by arthritis of a universal character—the finger and toe joints, as well as those of the ankles, knees, hips, wrists, and elbows, being affected, although neither parent had had gonorrhœa.

Dr. WILLIAM H. STEWART said that while he was in the hospital they had had several cases of ophthalmia neonatorum—that was, so called. He believed the controversy at that time had been whether the gonococcus had been present or not. He should judge from the paper that the idea was that the arthritis was secondary to the gonorrhœal infection, the point being that the general infection came from the conjunctiva instead of from the urethra, it being a true case of gonorrhœal arthritis. He had never seen a case of that character, but should think it quite possible that it might occur. He supposed that the fact that the serum and pus had been examined, and the gonococci found, proved that it was a gonorrhœal ophthalmia; the diagnosis of the arthritis was based on that point. You might have also coincident arthritis with ordinary ophthalmia neonatorum, without its necessarily being of gonorrhœal origin.

Book Notices.

BOOKS, ETC., RECEIVED.

A Treatise on Aphasia and Other Speech Defects. By H. Charlton Bastian, M. A., M. D. Lond., F. R. S., Emeritus Professor of the Principles and Practice of Medicine and of Clinical Medicine in University College, London, etc. With Illustrations. New York: D. Appleton and Company, 1898. Pp. viii–366. [Price, $4.50.]

Atlas and Essentials of Pathological Anatomy. By Dr. O. Bollinger, Obermedicinalrath and Professor. Volume II. Urinary Apparatus, Sexual Organs, Nervous System, and Bones. With Sixty-three Colored Figures upon Fifty-two Plates and Seventeen Illustrations in the Text. New York: William Wood & Company, 1898. Pp. x–53 to 232.

Dyspepsies nerveuses et neurasthénie. Par le Docteur Paul Glatz, Médecin des établissements hydrothérapiques de Champel (près de Genève) et de Nice (établissement hydrothérapique du Bd Tzarewitch), etc. Bâle et Genève: Georg et Cie., 1898. Pp. viii–340.

Spectroscopie biologique. Spectroscopie de l'urine et des pigments. Par A. Hénocque, Directeur-adjoint du Laboratoire de physique biologique du Collège de France. Paris: Masson et Cie., 1898. Pp. 5 to 203. [Encyclopédie scientifique des aide-mémoire.]

Transactions of the Southern Surgical and Gynæcological Association. Volume X. Tenth Session, held in St. Louis, November 9, 10, and 11, 1897.

Transactions of the American Pædiatric Society. Ninth Session, held in Washington, May 4, 5, and 6, 1897. Volume IX.

Twenty-fifth National Conference of Charities and Correction, New York City, May 18–25, 1898. The Report of the Standing Committee on Municipal and County Charities (including Public Outdoor Relief). Including an Account of the Charitable Activities of the Seventy-three Cities in the United States having a Population of more than Forty Thousand in 1890.

The Twenty-sixth Annual Report of the Board of Directors of the Zoological Society of Philadelphia.

Sixteenth Annual Report of the Provincial Board of Health of Ontario. Being for the Year 1897.

Report relating to the Registration of Births, Marriages, and Deaths in the Province of Ontario for the Year ending December 31, 1896.

Clinical Report of the Rotunda Hospitals, for One Year, November 1, 1896, to October 31, 1897.

A Simple, Painless, and perhaps New Method of Vaccination: Denudation *versus* Scarification. By M. B. Hutchins, M. D., of Atlanta. [Reprinted from the *Journal of the American Medical Association.*]

Neurotic Eczema. By L. Duncan Bulkley, M. D. [Reprinted from the *Journal of the American Medical Association.*]

Thiosinamine: A Clinical Contribution to its Study. By George F. Suker, M. D., of Toledo, Ohio. [Reprinted from the *Ophthalmic Record.*]

Constipation; some of its Effects and its Non-medicinal Treatment. By E. S. Pettyjohn, M. D., of Alma, Michigan. [Reprinted from the *Journal of the American Medical Association.*]

Ueber Oesophagoskopie und ihre therapeutische Verwendbarkeit. Von Dr. Ludwig Ebstein, Assistent an der K. K. Universitätklinik für Laryngologie. [Separatabdruck aus der *Wiener klinische Wochenschrift.*]

Ueber Naftalan. Von Dr. Friedrich Rosenbaum. [Sonderabdruck aus der *Deutsche medicinische Wochenschrift.*]

L'Organo-terapia nelle Nefriti della Infanzia. Per il Professore Luigi Concetti. [Estratto dal *Bullettino della R. Accademia Medica di Roma.*]

Injuries from "Live" Electric-light and Trolley Wires. By J. J. Brownson, M. D., of Dubuque, Iowa. [Reprinted from the *Tri-State Medical Journal and Practitioner.*]

Miscellany.

The Third Pan-American Medical Congress.—We learn from the *Tri-State Medical Journal and Practitioner* for May that the committee on organization of the third Pan-American Medical Congress, which is to be held in Caracas, Venezuela, Christmas week, 1899, has been appointed as follows: President, Dr. José Manuel de los Rios; first vice-president, Dr. Nicanor Guardia; second vice-president, Dr. José I. Cardozo; third vice-president, Dr. Alfredo Machado; treasurer, Dr. Luis Ezpelosin; recording secretary, Dr. Luis Razetti; corresponding secretary, Dr. Francisco A. Rizquez; and members, Dr. B. Mosquera, Dr. P. Acosta Ortiz, Dr. H. Rivero Saldivia, Dr. E. Ochoa, Dr. M. A. Seco, Dr. S. A. Dominci, Dr. E. Rodriguez, and Dr. M. Herrera.

The *Journal* adds: "As a knowledge of the Spanish language is valuable, in fact, almost indispensable, to those who expect to attend the Pan-American Congress, we suggest that now is the proper time to begin the study of this language. To one who has studied Latin, or French, or Italian, the Spanish is easily acquired. It is a beautiful language, void of silent letters and pleasing to the ear. Whatever we may think of the Spaniards, there is no question about the utility of the Spanish language."

American Medical Diplomas in India.—The *Indian Medical Record* for April 16th publishes a letter from Dr. O. G. Place on the subject of bogus American diplomas. We reproduce here Dr. Place's letter and the editorial comment thereon as likely to be of interest to our readers:

AMERICAN MEDICAL DIPLOMAS.

To the Editor, Indian Medical Record:

Sir: I note, by regular perusal of your valuable journal, that you are an active advocate of an impartial yet high standard of education for all medical practitioners in India. The time can not too quickly come when this much-needed improvement shall be realized. It is not only distressing to the hard-working and well-informed physician, but it is a crime against suffering humanity, for the great number of so-called "doctors," without education, and without conscience, to thus live at the expense, and prosper by the downfall, of those who have no means of knowing, until too late, that they are being imposed upon. I was pleased to note your comments on Dr. Foy's article with reference to so many bogus American medical colleges, in which article the impression is given that degrees may be secured in America for money only. We recognize that there are sharpers and scoundrels in America. We have met some of the same class in England and on the Continent, but to illustrate any national standard by individual rascality is doing ourselves, as well as the country, an injustice. We anxiously look for the time when India shall have secured equally stringent laws and high standards, governing the practice of medicine, as may to-day be found in the States or in Canada. "America" has many schools, some of which belong to Great Britain, and some to the United States. From which country these bought diplomas are coming is not stated by Dr. Foy. We are personally acquainted with the Canadian medical standards, and have done some work in the States, but although we occasionally hear of such "American" diplomas, we have not as yet been able to get our hands or eyes upon even one such document, although we have (for special reasons) been very desirous of so doing for several years. Any physician knowing of such diploma being now in use in this country will confer on us a great favor by simply stating its location.

Yours in the interests of better protection for the hard-working and properly qualified medical practitioner. O. G. Place, M. D.

[It gives us much pleasure to publish Dr. Place's letter. We have always held that America is second to no country in the world for the high standard of many of her medical schools and the excellence of her physicians. But that bogus diploma mills exist in that far-advanced Western clime is proved by the almost weekly protests of the best journals of that country. We must indicate an error into which Dr. Place has fallen—namely, that "some" American medical schools belong to Great Britain. This is incorrect. No medical school in either America (the States) or Canada belongs to Great Britain in any sense. Canada belongs to Great Britain, but her medical schools are her own, governed by her laws, and uncontrolled by the only body that controls medical education in Great Britain and her Colonies—namely, the General Medical Council. It is quite true, however, that the council recognizes the diplomas of Canadian medical schools, just as she does those of England's other colonies. Dr. Place has every right to be proud and jealous of the good name of American and Canadian medical education. Our only desire is to expose and crush down frauds.—*Editor of the Indian Medical Record.*]

Professor Schenk and Ancient Embryology.—"D. D. N." writes to us from Syracuse, N. Y., to say that Professor Schenk's discovery of the control of sex is antedated in a publication of the year 1719, a. d., by one Thomas Fleet, of Boston, Massachusetts, from which the following is an extract:

"What are little boys made of?
Snaps and snails
And puppy dog tails;
That is what little boys are made of.

"What are little girls made of?
Sugar and spice,
And everything nice;
That is what little girls are made of."

The name of the publication in which this is to be found is known as *Nursery Rhymes of Mother Goose.*

Formaldehyde as an Albumin Test.—Dr. J. M. Adams (*Medical Brief*, June) states that an exceedingly dilute aqueous solution of formaldehyde is the most sensitive test known for albumin in the urine.

Was it Ptomaine Poisoning?—After eating a dinner of which pork was the principal article of food, three men of Philadelphia became suddenly ill and were taken to the Polyclinic Hospital. At first it was thought that trichiniasis was the cause, but this was subsequently disproved, and it is now supposed that the meat was in a state of decomposition, and that death was due to ptomaine poisoning.

A New Clinical Professor of Obstetrics in Philadelphia.—At a recent meeting of the faculty of the Medico-chirurgical College, Dr. George M. Boyd was elected clinical professor of obstetrics. Dr. Boyd has been for some time demonstrator of obstetrics in that college, and has also given clinical lectures. He is a graduate of the University of Pennsylvania, and a member of many medical societies.

Philadelphia may at Last have Better Water.—After a thorough examination made by the sanitary commission recently appointed by the Board of Health of Philadelphia, and also by a committee of the State Board of Health of Pennsylvania, it has been found conclusively that the Schuylkill River water is highly polluted with all varieties of filth.

This committee was not absolutely needed, for it is generally known among physicians of this city that the death rate from typhoid fever is entirely too high. After a long struggle in which many bribes and attempted briberies have been made, and after exhausting the patience of all medical societies and health societies, the common council has at last passed the loan bill appropriating $3,700,000 for the establishment of a proper filtration plant for this city.

The action of the select council is, however, anxiously awaited on account of the antagonistic feeling of that body, but public opinion is so aroused that we imagine the bill can hardly be defeated.

A National Society to Study Epilepsy.—At a meeting held at the Academy of Medicine in New York city on the 24th of May, representatives from eight States were present to organize a "National Society for the Study of Epilepsy and the Care and Treatment of Epileptics." Speeches favoring the formation of such a society were made by Dr. Abraham Jacobi, Dr. Ira Van Gieson, Dr. C. A. Herter, Dr. Frederick Peterson, Dr. E. C. Fisher, and Dr. William P. Spratling, of New York; Dr. H. C. Rutter, of Ohio; Dr. William M. Bullard, of Massachusetts, and Dr. B. D. Evans, of New Jersey. The society organized with forty-four members, and the following officers were elected: President, Hon. William Pryor Letchworth, LL. D., of New York; first vice-president, Dr. Frederick Peterson, of New York; second vice-president, Professor William Osler, M. D., of Maryland; secretary, Dr. William P. Spratling, of New York; treasurer, Dr. H. C. Rutter, of Ohio. Application for membership should be addressed to the secretary at Craig Colony, Sonyea, N. Y.

Murder of Dr. Bertine.—We learn from the *Evening Telegram* of May 30th that Dr. Louis E. Bertine, president of the board of health, was attacked by four highwaymen late on the evening of May 28th, as he was returning home from a meeting of the Mount Vernon Common Council. He was struck a crushing blow behind the right ear. Dr. Bertine managed to reach home, and then became unconscious, and remained in that condition. Dr. Goodwin, Dr. Greene, Dr. Hammil, and Dr. Kipp were in turn summoned. When Dr. Bertine did not recover consciousness, the four doctors held a consultation and decided that the only hope of Dr. Bertine's recovery, which was very slight in any case, was to operate on him, which was done. Dr. Bertine is since dead from the injuries inflicted upon him. There is no means of identifying his assailants, as the doctor at once became unconscious on reaching home.

Presidency of the Medical Society of London.—We learn from the *Philadelphia Medical Journal* for May 28th that Mr. Edmund Owen, F. R. C. S., senior surgeon to St. Mary's Hospital and the Great Ormond Street Children's Hospital, London, is the new president of the Medical Society of London. As the *Philadelphia Medi-*

cal Journal says, Mr. Owen is undoubtedly a sound surgeon and a fine operator, while he is also favorably known to the medical profession as an outspoken man and a hater of humbugs of all sorts. His knowledge of the surgical diseases of childhood is probably unequaled in London.

Self-procured Abortion Causes Double Ovarian Abscess and Death.—Dr. B. F. Kingsley (*Texas Medical Journal*, May) records the case of a woman who, three weeks after producing abortion on herself by means of some instrument, came to the hospital at San Antonio with pain and tenderness over the lower abdomen and high fever. She died suddenly two weeks later, and the autopsy displayed a ruptured abscess of both ovaries. There were no adhesions, but a small quantity of seropurulent fluid was found in the abdomen.

Illness of Sir James Paget, Bart., F. R. C. S.—We regret to learn (*Philadelphia Medical Journal*, May 28th) that Sir James Paget is seriously ill. Sir James Paget is a man who has earned universal respect for his character, professional capacity both theoretical and practical, and his rare culture. He has been christened in England the "Medical Chrysostom," from his eloquence.

Another Removal of the Stomach. Operation Successful.—We learn from the *Clinical Review* for June that Dr. Charles B. Brigham, of San Francisco, reports (*Boston Medical and Surgical Journal*, May 5) a successful removal of the entire stomach in the case of a woman sixty-six years of age, suffering from carcinoma of the pylorus, yet with evident extension of the carcinomatous process involving even more than half of the anterior wall of the stomach. The patient made a very good recovery from the operation. The operation was done on the 24th of February, 1898, and seven weeks thereafter the woman was discharged from the hospital in an improved state of health.

Meeting of the State and Provincial Health Boards.—The thirteenth annual meeting of the State and Provincial Boards of Health of North America will be held in Detroit, Michigan, August 9th, 10th, and 11th prox. Dr. Benjamin Lee, health officer of Philadelphia, is president.

Health Protective Association for the U. S. Army.—A plan is now being formed for the organization of a commission of physicians who are to devise health rules for distribution among the troops proceeding to Cuba. It is reported that there were last year thirty thousand deaths in Cuba from preventable diseases, and it is hoped to educate the soldiers on this subject in order that proper precautions may be taken. Dr. E. D. M. Sajous, of Philadelphia, is active in the work.

"Therapeutic Castration."—Dr. Rivière, of Lyons (*Clinique*, May 15th), reports two cases in which the use of thyreoidin produced what he terms "therapeutic castration"—*i. e.*, sexual incompetence. A correspondent of the *Philadelphia Medical Journal* (*Clinique*, May 15th) also states that the tobacco habit owes its existence to its ability to keep the sexual activity in abeyance by acting as a depressant.

Excision of the Rectum for Prolapse.—M. Vallas (*Province médicale*, May 14th) reported to the Société de chirurgie de Lyon two cases of total prolapse of the rectum, comprising the extrusion and invagination of all the rectal tunics, including the serous. In the first case the patient was twice operated on and was entirely cured. The second died of acute peritonitis, caused, as was shown at the autopsy, by the infection of two or three points of the suture in the serous tunic having fallen on the sides of the rectum, probably at the time of a diarrhœal discharge.

Dr. Joseph M. Mathews (*Love's Medical Mirror*, June), in a paper on Extirpation of the Rectum, or What Rectums should be Extirpated? thus summarizes his conclusions:

1. That the Kraske operation is not to be advised.
2. That what is known as the high operation for the removal of cancer of the rectum is seldom justifiable.
3. That the opening of the peritoneal cavity in operating for cancer of the rectum is to be deprecated and should not be regarded as a "light affair."
4. That the circular method is to be preferred in the extirpation of cancer of the rectum over the sacral method.
5. That all malignant growths within reach of the finger and that can be circumscribed should be extirpated.
6. That where a stricture exists, threatening total obstruction and it is not considered advisable to extirpate the growth, either colostomy should be done or the stricture should be *forcibly* dilated.
7. That forcible and free dilatation of a stricture often accomplishes as much as a colostomy, and is much to be preferred.
8. That it is questionable whether the entire rectum should ever be extirpated for cancer.

The Pennsylvania Milk Supply.—It will be remembered that a short time ago mention was made of the fact that a thorough examination had been made of the quality of milk supplied to Philadelphia and other large cities in the State. It was found that nearly all the samples taken from various sources in Philadelphia proved to be up to the standard, except in the case of that supplied to the restaurants, which generally receive skimmed milk. It is now gratifying to state that up to the 11th of May there has been received at Harrisburg the sum of $1,094 collected by the dairy and food departments as fines imposed upon violators of the law.

A Bequest to the Medico-chirurgical Hospital, of Philadelphia.—According to a bequest made by the late Mr. Theodore Wernwag, the college is to receive five thousand dollars, free from the collateral inheritance tax, for the endowment of a free bed to be named after the testator's deceased sister, Sarah Elizabeth Wernwag.

A Bequest to the German Hospital, Philadelphia.—By the will of the late William Keinath, three memorial beds have been endowed in the sum of fifteen hundred dollars, to be known as the William Keinath, Sarah Keinath, and Julia Keinath memorial beds.

The Boylston Prize goes to a Philadelphia Physician.—The Boylston prize of Harvard University for the year 1898 has been awarded to Dr. Guy Hinsdale, of Philadelphia, for a monograph on the subject of acromegaly, which contains a summary of original work in the anatomy, physiology, and pathology of that disease.

The Epidemic of Diphtheria may be Due to Milk.—In Philadelphia a number of cases of diphtheria recently occurred in the families supplied by a certain milkman, and finally Chief Inspector Taylor was detailed to make an investigation as to its origin. On going to the dairy farm, he found it to be in a very bad condition, giving rise to suspicion that this was the source of infection. A strict quarantine is being exercised over the premises, and the milk is being examined by the bureau of public health.

The Commencement of the Woman's Medical College, Philadelphia, was held Thursday, May 19th, in the Academy of Music. The degrees were conferred on thirty-four students. The following States were represented in the graduating class: Pennsylvania, fifteen; New Jersey, five; Ohio, three; Massachusetts, two; Connecticut, one; New Hampshire, one; Louisiana, one; Indiana, one; Virginia, one. Other representatives were from Russia, one; China, one; Ecuador, one; District of Columbia, one.

A Legacy for the Erection of a Statue to Dr. Chapman, of Philadelphia.—The trustees of the University of Pennsylvania have been notified that by the will of the late Dr. Samuel Jackson the sum of three thousand dollars has been left for the erection of a statue of Dr. Nathaniel Chapman, who was professor of materia medica in the University of Pennsylvania from 1813 to 1816, and afterward professor of the practice of medicine (1816–1850).

Dr. Jackson was emeritus professor of the institutes of medicine in the university from 1835 to 1863.

Dr. Benjamin Lee desires More Power to Prevent Pollution of the Drinking Water of Philadelphia.—The incessant rains of the past six weeks have caused a surplus of mud, coal dust, etc., to be washed into the water supply of the city of Philadelphia. In the residence part of West Philadelphia the water at times becomes so black that one shudders before even bathing in it. However, some maintain that this water is not dangerous, and many drink it.

A committee recently made a journey up the Schuylkill River on an inspecting tour, but a summary of their opinions has not been reported. The health officer, Dr. Benjamin Lee, in an interview, recently said that in his opinion the city of Philadelphia would ultimately have to go to the Delaware River for its drinking water. To prevent the possibility of pollution, the river should be tapped above the site of some of the large cities along its banks. In regard to the contamination of the Schuylkill River, which now furnishes the city with water, it was his opinion that the legislature should give the board of health police authority to abate nuisances and to prosecute individuals or corporations guilty of allowing contaminating substances to flow into the river or its tributaries.

The Medical Society of City Hospital Alumni of St. Louis.—At the last regular meeting, on Thursday evening, the 2d inst., the following papers were to be read: Some New Sugar Tests—A Report on Some Blood Examinations, by Dr. L. Bremer; A Report of Three Cases of Puerperal Fever treated with Antistreptococcic Serum, by Dr. E. W. Saunders; and Secondary Puerperal Parotitis, by Dr. B. M. Hypes.

Philadelphia and the State of Pennsylvania have been Warned against Small-pox.—The State Board of Health of Pennsylvania has sent out notices to all the local boards in the State, warning them against the danger of small-pox on account of its prevalence in Cuba and certain regions of the South which contracted it from the citizens of that island. It is thought that Philadelphia might act as the focus of contagion, for it will be remembered that two cases from that city were recently reported to the board of health. The disease was probably carried through the medium of a bale of cotton, mention of which was made in this journal several weeks ago.

Deaths of Foreign Medical Men.—The deaths are announced of Dr. Jules Worms, of Paris; Dr. Dragendorff, formerly professor of pharmacy and toxicology in the University of Dorpat; Dr. Chollot, a veteran practitioner of Alsace-Lorraine, who graduated in 1837; Dr. Henry Marshall, of Bristol, a former assistant of Lister; Dr. Samuel Gordon, ex-president of the Royal College of Physicians of Ireland; Dr. Wilhelm Grube, formerly professor of surgery in the University of Charkow; Dr. Amadeo Marianelli, extraordinary professor of dermatology and syphilography in the Medical Faculty of Modena; Dr. Philogonio Lopes Utinguassu, deputy professor of physiology and pathological anatomy in the Medical Faculty of Rio de Janeiro; Dr. Humbert Molière, physician to the Lyons Hospitals; Dr. Eduardo Periera Pimenta, professor of surgery in the Eschola Medico-cirurgica, of Oporto; Dr. C. Barzilai, formerly professor in the University of Padua; Dr. Lopez Alonso, professor in the Medical Faculty of the University of Salamanca; Dr. Zanearol, physician to the Greek Hospital, Alexandria; Dr. Ludwig Schillbach, extraordinary professor of surgery in the University of Jena; and Dr. A. Krasovski, formerly professor of obstetrics and gynæcology in the Military School of St. Petersburg.

An Open Safety Pin Swallowed.—Dr. Joseph Clements (*Pædiatrics,* June 1st) reports the case of a baby seven months old who, on July 27, 1890, swallowed an open safety pin. There was some fever and sore throat, with gagging, coughing, and hæmoptysis for a while, but afterward the child appeared well, and the pin was passed on August 22d. No bloody stools were seen during the passage of the pin, which occupied thirty-two days. The child is healthy and well.

Fire at the Printing Office of the Columbus Medical Journal.—From the issue of the *Columbus Medical Journal* for May 17th we learn that a fire destroyed a quantity of set-up matter, presses, and copy on the morning of May 12th. Many original articles and much abstract material were lost by this regrettable event.

The Danger of the Scissors.—Without care, the scissors, so important an implement in editorial hands, may become as fatal as the scalpel. The *Columbus Medical Journal* for May 17th, under its department of Therapeutics, begins a note as follows: "In the *Therapist* E. F. Willoughby, M. D. (Lond.), gives notes on a few cases in which this drug is used, and thinks most highly of it, etc." After reading halfway through the note, which has no heading other than "Therapeutics," we come to the conclusion that, of the many drugs named therein, pilocarpine is probably the one referred to.

Nervous Diseases at Places of Great Altitude.—Dr. S. D. Hopkins (*Denver Medical Times,* May) says that the laity in places of great altitude constantly complain that the altitude makes them nervous. He says that external factors—*e. g.,* financial distress, domestic or business worry—are often the real cause. In Colorado high living and late hours are frequently the really responsible agents. Drowsiness is the commonest first effect of early residence in Colorado, hence overworked Easterners often find there at first a cure for their insomnia. Chorea is apparently unaffected by the conditions of climate and altitude in that State; epileptics, on the other hand, improve if they lead a quiet life. The most frequent form of insanity is melancholia, which bears to mania the proportion of about three to one. Sunstroke he has never heard of in Colorado. Cerebral vascular lesions are as common as at sea level; in fact, patients coming from a low level are particularly liable to apoplexy.

Dental Hemiplegia.—The *Denver Medical Times* for May, quoting the *Virginia Medical Semimonthly* for March 25th, quotes the report of a case by Dr. J. D. Eggleston in which hemiplegia was promptly and completely cured on the removal of a sound though sensitive "wisdom" tooth.

Aspiration of the Liver.—Surgeon-Colonel W. F. Stevenson, professor of surgery at the Army Medical School at Netley, England, comments in a letter to the *Lancet* of May 21st, on remarks published by Surgeon-Lieutenant-Colonel Hatch in the *Indian Medical Gazette* for April, as to the possibility of aspiration of the liver producing fatal hæmorrhage into the peritoneal cavity. Professor Stevenson, while indorsing the danger of incautious aspiration, can not agree with the *Lancet* in recommending its abandonment altogether, on the ground that the operation offers no advantages to compensate for its undoubted risk. Dr. Stevenson contends that its certain evidence as a diagnostic sign where positive results are found, and its almost certain evidence where negative results are obtained from puncture in three or four situations, are really great advantages, for, "the books notwithstanding, there are no symptoms or physical signs on which the surgeon can depend for indicating the necessity for operation in cases of suspected abscess of the liver." He has treated over one hundred cases in which abscess of the liver was present or suspected, and his routine plan has been to aspirate first at one or more points, and then to operate on a positive result being obtained. No evil effect was ever noticed in cases where pus was not found. While a certain amount of danger must be admitted as existing, he thinks that it is altogether infinitesimal in comparison with the number of cases treated.

The "Anytoles."—We learn from the *Lancet* for May 21st that Dr. F. Loeffler, of the University of Greifswald, starting from a consideration of the nature and properties of ichthyol, has prepared an important group of bodies of great interest in medicine. Ichthyol is obtained from the products of the distillation of a bituminous quartz in the Tyrol by treating them with sulphuric acid and neutralizing with ammonia. It is a sulphonate in composition, which fact suggested the treating of certain mineral oils, resin oils, and other hydrocarbons with sulphuric acid. If these hydrocarbons are treated with concentrated sulphuric acid, then neutralized with ammonia and the insoluble portion precipitated with alcohol, a product is obtained which possesses a comparatively very great solvent action on bodies insoluble in water. This ammonia salt derived from a hydrocarbon and remarkably rich in sulphur is called by Helmers "anytin," and it is this substance which appears to possess to a remarkable degree the property of rendering substances otherwise insoluble in water soluble, and preparations thus made soluble are called "anytoles." Thus phenol converted into soluble form by means of anytin is called "phenol-anytole."

Anytoles have been formed by the combination of anytin with cresol, meta-cresol, creosote, guaiacol, benzene, eucalyptol, peppermint, wintergreen, turpentine, camphor, iodine, etc. Anytin has bactericidal properties, being specially effective against diphtheria bacilli, streptococci, and anthrax. The anytoles of disinfectant substances showed a marked increase in the disinfectant power of the latter. Meta-cresol-anytole (meta-cresol, 40, anytin, 60 parts) prevents the coagulation of albumin on boiling. It is said to be very valuable for disinfection of the hands, for it does not affect the skin in a three-per-cent. solution. It is a valuable application for infected wounds, and in weaker solutions—*e. g.*, one per cent.—is a useful application to the nares in ozæna, to the uterine cervical mucous membrane, and the mucous surfaces of the vagina and of the male urinary tract. It has been suggested for use against the gonococcus.

A Committee of Inquiry into the Injurious Effects of X Rays.—According to the *Lancet* for May 21st, a committee has been formed in England to inquire into cases of alleged injury caused by exposure to X rays.

The following members were selected, with power to add to their number: Professor Sylvanus P. Thompson (president of the Röntgen Society), Dr. David Walsh (secretary of the Röntgen Society), Mr. Thomas Moore, Dr. Barry Blacker, and Mr. Ernest Payne (Hatchlands, Cuckfield, Sussex), who is acting as secretary to the committee. The committtee will be glad to hear from all workers with X rays of any case of injury that may have come under their notice after exposure of a patient to the rays, and in order to obtain accurate reports the committee have prepared a set of questions framed with a view to elicit opinion and collect information to show whether the injury was the result of any of the following causes: (1) the X rays themselves directly; (2) some electrolytic or electrothermal action of a leakage discharge current from the leads or from the terminals of the tube; (3) some action due to the varying electrostatic charges on the surface of the tube; (4) some combination of these; (5) some other hitherto unrecognized kind of radiation emitted simultaneously with the X rays; or (6) some other cause hitherto unobserved. The secretary of the committee will be glad to send copies of the questions to any medical man or other worker in X rays who may know a case about the circumstances of which he is willing to give particulars. No names will be published in connection with the information supplied except by the distinct consent or request of those concerned.

Rampant Organotherapy.—A writer in the *Chicago Medical Observer* tells the following story: While attending a confinement he saw the nurse return, soon after the placenta had been expelled and taken from the room, with a small piece of meat, well peppered and salted, which the young mother ate. It was explained that "the meat was a piece of the afterbirth, taken to prevent after-pains; for that is how all animals do." The revolting morsel was given the credit for an early "getting up."

Well, why not? That would not be half so marvelous, to our thinking, as that the morsel stayed down.

The Sacrilegious Microbe.—According to the *British Medical Journal* for May 21st, Professor L. Vincenzi examined the "holy water" from one of the most frequented churches of Sassari, and found in it a large number of microbes—staphylococci, streptococci, colon bacilli, Loeffler's bacillus, etc. There were four cases of diphtheria, one fatal, in Sassari. He cultivated them, obtaining pure cultures, and proved their virulence on animals. While this is not a very alarming thing in respect of the ordinary use of "holy water," it still justifies the caution given by the *British Medical Journal* not to indulge in the practice of touching the lips with it.

A Medical Poet.—The increasing reassociation of the physician with letters is always a source of pleasure to us, and we have no doubt that the following notice of a medical poet's work from the *Nation* for June 2d will be of interest to many of our readers: Philadelphia, always a city eminent for physicians, is becoming a city where physicians are also poets, and Dr. Edward Willard Watson, in his *Songs of Flying Hours* (Philadelphia: Coates), is no more afraid of writing poems on the actual themes of science than was Dr. O. W. Holmes of writing *The Anatomist's Hymn*. The Philadelphian does his work, too, like his Boston precursor, with a thoroughness and dignity that disarm criticism (p. 146):

BACILLI.

For you no kindly power, with loving art,
Adorns and shapes, with beauty rare, each form.
Beneath the eye of man, in unseen part,
Ye, in the darkness of the infinite, swarm.
Everywhere, alway, in the calm or storm,
Within the living, waiting there the hour
When ye shall rise triumphant and o'erpower,
Within the dead, where carnival ye keep,
Ever invading as ye steal and cower,
Till, on some sultry wind, ye to your carnage leap.
Are ye, then, life? Like flowers and painted things
That poise in sunshine on their gilded wings,
That hum the note that louder still doth float,
Leaping heavenward, from the palpitating throat
Of every bird that skyward soars and sings?
Or are ye death, the desolate and drear,
Ever surrounding us with legions vast;
Evading sight, lurking in guilty fear
Where never can unaided glance be cast?
Are ye the silent foe of that blest power
Who, for us, works unceasing, day and night,
That hides from us its majesty and might
Within the blushing petals of the flower?
And, in the future, will the untiring hand
That builds again each shattered house of clay,
Conqueror, before death's flying legions stand,
And claim for all that lives a deathless day?

New Professor at New York School of Clinical Medicine.—Dr. John J. Morrissy has been elected professor of practice and pathology at the New York School of Clinical Medicine.

The Resolutions on House Sanitation of the International Congress of Hygiene and Demography at Madrid.—The following resolutions (*Lancet*, May 21st) were drawn up by Professor Corfield, of London, at the request of the organizing committee of the congress, and submitted for revision to an international committee composed as follows: Professor Corfield, London (proposer); Dr. Pistor, Berlin (seconder); Herr Andreas Meijer, chief engineer of Hamburg; M. G. Bechmann, ingénieur en chef des ponts et chaussées, Paris; Professor Fodor, Budapest; Mr. Arthur Cates, architect, London; Herr Berger, chief architect, Vienna; Herr Lindley, engineer, Frankfort-on-Main; and Dr. A. J. Martin, member of the consultative committee of public hygiene of France.

The resolutions were revised by the committee and were submitted to the International Congress recently held at Madrid, where they were adopted as resolutions of the congress. They may be taken to represent the maximum amount of agreement possible at the present moment among sanitarians of different European countries. They are as follows:

1. That the general health of the population is improved and the spread of diseases prevented in towns and dwellings by the immediate removal of all foul matters and by a copious supply of pure water.

2. That the paving of streets should be smooth, and as far as practicable impervious, to facilitate cleansing and also to prevent contamination of the subsoil.

3. Special measures should be taken in the construction of houses to prevent the access of ground air and moisture to the floors and walls.

4. House drains should be arranged so as to avoid stagnation of their contents and to secure a rapid flow to the street sewer. Their walls should be impervious to liquids and gases, they should be freely and continuously ventilated, and provided with siphon traps to prevent the access of foul air to the houses.

5. The public sewers should be so constructed as to insure the rapid and uninterrupted flow of the sewage to their outlets. They should always be freely ventilated.

6. The streets should be as wide as possible in proportion to the height of the houses; this proportion should be fixed in each locality, regard being had to local circumstances and to climate. Every inhabited building should be well lighted throughout its whole depth, and so arranged as to have an access of air from at least two sides.

7. Special regulations should be made in each locality by the public authorities with the view of enforcing the practical application of the principles herein laid down. Governments and municipalities should resolutely and energetically carry out the preceding recommendations, especially those concerning the healthiness of dwellings.

Oophorectomy during Labor.—Dr. E. Reynolds, of Boston (*International Journal of Surgery*, June), reports what he believes to be the first case of oophorectomy performed during labor. The tumor which prevented delivery proved to be a dermoid cyst in a necrotic state. The child was extracted from the uterus after perforation. The patient recovered.

Lipoma of the Tongue.—Dr. Hal Foster (*Laryngoscope*, June) records a case of lipoma of the tongue in a man sixty-two years old at the United States Military Home, Leavenworth, Kansas. Lipoma of the tongue is rare.

Another Hospital Ship.—According to the *Boston Medical and Surgical Journal* for June 2d, the *John Englis*, belonging to the Maine Steamship Company, has been purchased for an army hospital ship.

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Original Communications.

DISEASES OF TROPICAL CLIMATES:
THEIR PREVENTION, DIAGNOSIS, AND TREATMENT.*

By T. S. DABNEY, M. D.,
NEW ORLEANS,
ACTING ASSISTANT SURGEON, U. S. ARMY.

Mr. President and Gentlemen: As you have seen fit to allot me quite a number and variety of subjects for discussion, I will bring out only the salient points in each affection and thereby save your time and patience. I will not tax you with details or with nice diagnostic and ætiological points, but will rapidly review each subject.

Insolation.—Heat stroke (ictus solis) is not peculiar to the tropics, nor need we fear many cases of that affection in our invading army. The causes of heat stroke, or rather the predisposing causes, are well known. We know that all that tends to depress the vital powers—notably alcohol, excesses of all kinds, poor ventilation, overcrowding in tents or barracks, lack of water, indigestible food, lack of suitable clothing, and failure to give long rests in the heated part of the day—is largely responsible for heat stroke among foreigners in the tropics, where, during the rainy season, we have the three principal factors in causing heat stroke: great humidity, continuous high temperature, and lack of cooling breezes. The diagnosis of the affection presents no special difficulty. As outlined above, preventive measures will largely protect our army. Soldiers should not be required to do much hard work for at least one month after landing in a tropical country. After that time they will be found able to resist the heat as well as the natives. Negroes stand the heat much better than whites, mainly on account of their more active sweat glands and lower nervous organization. The treatment of sunstroke is the same practically everywhere—hydrotherapy. According to Winternitz, venous stasis and congestion of the capillaries of the skin cause a retention of ninety-four per cent. of the heat which can be given off from the body surface. Therefore the more the circulation of the skin is increased by physical irritation the greater the amount of heat given off.

Cold baths powerfully stimulate the nervous system. During these baths or cold packs, constant, unintermittent friction must be kept up by means of vigorous rubbing with the hands or with crash gloves. Large iced enemata often prove very valuable. The patient should be taken out of the bath when his temperature reaches 103° F.; he should be wrapped in a blanket, and hot bottles placed around him. A stiff drink of whisky should generally be given. In other words, the treatment should be the same in Cuba as in New York or New Orleans.

Tropical Anæmia.—Tropical anæmia is due to an intestinal parasite, the *Ankylostoma duodenale*, a reddish round worm from eight to ten millimetres in length. These worms, though often found in great quantities in negroes, seldom produce anæmia in that race. By strict sanitary measures they can be kept from the alimentary canals of our soldiers. Prevention here is worth many pounds of cure. Any treatment looking to a permanent cure must have for its fundamental principle the elimination of the parasites and the treatment with iron, bitter tonics, etc., of the secondary anæmia afterward. Male fern has been recommended very highly, but it often fails. Thymol is used with happy effect in most cases. Bozzollo first called attention to it in this connection. He used very large doses, sometimes giving as much as ten grammes a day in broken doses. Equally good results may be obtained by smaller dosage. Lutz recommends two to three two-gramme doses at intervals of two hours. A brisk purge should always be given first and large saline enemata afterward, in order to wash away the ova and larvæ in the rectum. Ankylostomiasis is essentially a soil disease, and is due directly to gross neglect of hygienic laws. With the proper attention to camp latrines, the personal hygiene of the soldiers, the water and food supply, our army will have nothing to fear from this disease.

Variola.—Owing to the utter lack of sanitary measures in all Hispano-American countries, and the indifference of the natives to preventive medicine, small-pox flourishes like "the green bay tree" at all seasons and in all parts of Cuba. You will scarcely find a hut or a lordly mansion in the island free from the contagion. It is everywhere, and vaccination practically nowhere. It must be borne in mind that forewarned is forearmed, and, should our soldiers suffer from this enemy, our surgeons will be held responsible. Let us profit by the experiments carried on in the German army—vaccinate the unvaccinated; revaccinate the vaccinated; re-revaccinate the revaccinated. We can also profit greatly by adopting the *German method*—always making at least three insertions of the lymph, thereby greatly increasing the chances of success, and, in the event of all the insertions "taking," intensifying the prophylaxis. Let us also bear in mind that the vaccination, when perfectly successful, loses its effect in many persons in a few years, in some in a few months. Bovine lymph, where time is no consideration, is to be preferred, but, on account of its slowness of acting and its failures, we may, in an emergency like the present, have to resort to humanized lymph. The diagnosis and treatment of small-pox will be reserved for you upon your victorious return home, for I feel sure that our soldiers will be in too good hands to be attacked by such a scabby enemy as variola.

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* Read before the Orleans, La., Parish Medical Society, May 14, 1898.

The Spanish army lost in Cuba last year from this cause alone, according to United States Marine Hospital reports, twenty-five hundred soldiers. The death certificates should have been "criminal neglect." The Spanish army surgeons are highly educated, and are thoroughly *au fait* in preventive medicine, hence they are precluded from pleading ignorance, like the poor Cuban peons.

Typhus Icteroides.—The next subject, yellow fever, I approach with much hesitation, for to do it justice were to take up too much time, and to do less were to do myself injustice.

To those of you wishing a knowledge of its ætiology and pathology, I beg to refer you to the masterly paper of Dr. R. Matas, read before this society, September 11, 1897. The very able and comprehensive paper of Dr. F. W. Parham, read the same evening, on its symptomatology and diagnosis, will enable any of you to recognize the disease. The voluminous and very valuable writings on this subject of our distinguished surgeon general will amply repay careful study. It fell to my lot to read before this scientific body on September 18, 1897, a brief outline of the treatment. I believe those of you who have never treated this disease would derive profit by carefully studying the treatment outlined on that occasion by me. I would especially urge you to give the Sternberg bichloride treatment the preference over all others. This, in connection with the daily saline enemata, abundance of cool water, fresh air and sunshine, and with strict attention to diet, will give such brilliant results as to rob that dread disease of its terror. As surgeons of the United States army your first duty will be to those intrusted to your charge, but you must not forget that you owe much to science. Perhaps never again shall we have the opportunity for studying, on so large a scale, this and other tropical diseases. See to it that the medical corps of the army gains as great victories over the foes of humanity in general as our soldiers do over the unfortunate descendants of a once mighty nation. I urge all of you, gentlemen, who will have the distinguished honor of accompanying our victorious armies to the Gem of the Antilles, or to Asiatic Manila, where the American Stars shine all the brighter for the Stripes they administered to the fleet of Montijo, to take careful notes of as many cases as possible; call in to your aid the camera, the microscope, the culture tube, and the chemist's outfit.

Judging from the medical men of the army whose acquaintance I have been fortunate enough to make, I would say that they are thoroughly qualified for making valuable contributions to the science of medicine.

Beri-beri.—Beri-beri, probably derived from the Cingalese word, beri-beri, meaning great weakness, is a very striking disease. While in Barranquilla, South America, I had the good fortune to study carefully a number of cases of this affection. Both varieties, the "wet" and the "dry" (the paralytic and the dropsical), were well represented in the large and airy wards of the Charity Hospital of that city.

The house surgeon, in his courtly Spanish way, put the entire hospital at my "disposition"—*A su disposición, señor.* Upon casual observation the disease might readily be mistaken for profound malarial toxæmia, anklyostomiasis, alcoholic or arsenical poisoning. Beri-beri is essentially an endemic multiple neuritis, characterized by great anæmia, irregular, rapid, palpitating action of heart, with marked dyspnœa and cyanosis upon the slightest exertion. In the "wet" variety, œdema, usually commencing on the dorsum of the foot, rapidly extends, filling the serous cavities especially the pericardium. General anasarca soon supervenes. Various motor paralyses and atrophies occur, the wrist and ankle drop and atrophy of legs below the knee being most pronounced. At times the diaphragm itself is paralyzed. The ankle drop gives the peculiar gait that, once seen, can never be mistaken. Many authors still consider that certain articles of diet—notably rice and fish, especially tainted fish—serve as predisposing causes of this dreadful disease. They point to the success of the Japanese, who succeeded in reducing the three thousand and sixty-three cases to the million in 1883 to three hundred and eighty-eight in 1889 by simply changing the diet from rice to what is known as European rations—that is to say, to a liberal diet of eggs, beef, pork, fresh vegetables, etc. The Japanese not only improved the dietary of their navy, but they also adopted many important hygienic measures, and to the latter as much, if not more, credit is due for stamping out beri-beri. The *post hoc, ergo propter hoc* argument is much in evidence here. Although no specific bacillus has yet been demonstrated as being the cause of beri-beri, there are many reasons for believing the disease to be of bacterial origin. Overcrowding in hospitals, jails, and ships, taken in conjunction with defective ventilation and unsanitary surroundings, together with an unsuitable dietary, so depress the vital powers as to render the system peculiarly susceptible to the specific poison. The treatment demands first the relief of the burning, stinging, and well-nigh unbearable pains. Drugs of the coal-tar series, cautiously used and in moderate doses, often afford marked relief. Opium may have to be resorted to. The constipation, a prominent symptom of the disease, will have to be met by appropriate cathartics. The dropsies must be removed by the use of diuretics and diaphoretics. The heart will demand your most earnest attention. Strychnine, digitalis, camphor, and strophanthus will be found of great utility. Dr. Domingos Freire attached great importance to the curative influence of strychnine in gradually increasing doses, starting at one sixtieth of a grain at a dose and going as high as one sixth of a grain. Galvanism in some instances seems to afford excellent results. The prompt removal of the patients to the mountains, where are fresh air, sunshine, and abundance of wholesome food and pure water, is by far the best treatment. The cases, if removed in time, generally speedily recover. The prognosis of those remaining in unsanitary quarters is in proportion to the unhygienic surroundings, the character of the food, etc., and ranges as low as eight per cent. and runs as high as fifty to sixty per cent. mortality. However, none of our soldiers, unless they accidentally fall into Spanish prisons, are likely to contract this disease, which is the child of ignorance, neglect, or criminality in the great majority of cases.

Malarial Fever.—The subject of malarial fever will be discussed to-night from the clinical standpoint only, and, without entering into the varieties and subvarieties claimed by Marchiafava Celli, Canalis Golgi, and a score of others, I will proceed to discuss this disease from the standpoint of Laveran, who claims, as you all know, that the malarial parasite is one and the same in all malarial fevers—he simply changes his form. The recent experiments of Opie and Maccallum of Johns Hopkins, tend to confirm Laveran in the correctness of his views. However, I express no opinion on this point. For practical reasons only it suits me for the nonce to discard the quartan, the tertian, and the æstivo-autumnal fevers of the *Hæmatozoon malariæ.* I propose to discuss malaria in whatsoever guise it may appear, its diagnosis and treatment. I might state in passing that the malarial diseases in the island of Cuba in 1897 are charged with being the cause of the death of seven thousand Spanish soldiers, while the dreaded yellow fever claimed only six thousand and thirty-four.

Diagnosis.—Whenever practicable the microscope should be called in to verify your diagnosis, but let me caution you right here against regarding the presence of the malarial parasite in the blood of a patient as proof positive of the case being one of malarial fever; it may be a mixed infection, or an acute disease—*e. g.*, nephritis, pneumonia, or yellow fever may occur in a subject whose blood is charged with the protozoa of malaria. The malarias of the tropics may be divided into two great classes: The benign (calenturas) and the bad (the pernicious fevers). The first fevers correspond to our ordinary tertian or quotidian type, are very mild or moderately severe, and always yield promptly to moderate doses of the sulphate of quinine administered *per os*, in solution or powder. If, however, these fevers be not promptly treated, they are liable after two or three paroxysms to suddenly change their type and become pernicious. As in our mild types of fever, the initial chill is often wanting, but it may be severe. The liver and spleen in malarial fever are usually enlarged. The chill usually occurs in the *daytime*, seldom earlier than 8 A. M., and not often after 4 P. M. There are exceptions to this rule, as there seem to be to all rules except the rule of three. Barring acute infectious diseases, such as yellow fever, dengue, etc., chills occurring at night generally suggest sepsis and not malaria. The diagnosis of the benign form of malarial fever, with (or without) its chill, its heat stage, and its stage of depression by sweating, can not be difficult, especially if taken in connection with the hot, flushed face, the thin, wide, easily indented tongue covered with a whitish or yellowish coat, the cephalalgia, the thirst, and the pale lips. The picture is too clear-cut, yet right here in our own country malaria is frequently confounded with typhoid fever, pulmonary tuberculosis, and simple irritative fevers.

In treating mild forms of malarial fever in Cuba do not underestimate them; treat them energetically and, in spite of much scientific (?) reasoning to the contrary, start with "clean decks"; that is to say, never undertake to cure the simplest case of malaria until you have given a good purge—mercurial preferred. The time to give quinine to these cases is just as soon as you reach the case, and the sooner you reach it the less need you will have for statistics (mortuary). You will generally reach the patient during the febrile stage. Now, experience long ago taught us that cases vigorously treated during the paroxysm as well as after it, and continued so as to anticipate another, give uniformly good results. Now we know the *raison d'être.* Laveran, Golgi, and Mannaberg have conducted very elaborate studies of this subject, which go to show that quinine acts most energetically upon the young parasites just as they burst out of the blood-cells. They demonstrated scientifically that quinine exerted but little effect on the intracorpuscular parasites. We have long known the fact but not the reason. If called to see a case of fever of the tertian type, I should order in powder or solution ordinarily seven grains and a half of the sulphate of quinine every hour or two until decided cinchonism occurs; usually three doses will be sufficient. Five grains of acetanilide or phenacetine seem to enhance the value of the drug, and they certainly add greatly to the patient's comfort. Usually one dose of acetanilide is sufficient. The patient should be kept in bed, the bowels, skin, and kidneys looked after, and moderate cinchonism kept up after the subsidence of the fever. On the third day seven grains and a half of quinine combined with five grains of Dover's powder or acetanilide should be given four hours before the chill time, and five grains of quinine every hour afterward until twenty-five to thirty grains have been given. Fifteen grains daily in three doses should be administered for four or five days, and then some bitter tonic, or iron and arsenic for from ten days to two weeks. In many cases less heroic treatment will succeed, but, unfortunately, we can not assort our cases and pick out those that require milder treatment.

The pernicious form of malarial fevers, according to Bignami, Bastianelli, and Thayer, is due to infection from the æstivo-autumnal or crescentic parasites. In some cases all the organs of the body are about equally invaded by these parasites. This is the commonest of all forms and is invariably accompanied by coma. Occurring in large numbers in the gastro-intestinal canal, we have intestinal malaria masquerading under the guise of a vicious dysentery or a choleraic diarrhœa. When the meninges and brain swarm with them, meningitis, delusions, hemiplegia, etc., are often found. For the same reasons we have the pneumonic, the gastralgic, and the hæmoglobinuric types. The microscope is here invaluable, as in many of these forms the similarity to other diseases may be so striking as to mislead you. Whenever called to see one of these pernicious types of fever you must be prepared to administer heroic doses of quinine by one of two methods—by the hypodermic needle or by Bacelli's intravenous method. The neutral hydrochlorate of quinine in gramme doses in aqueous solution must be used. I have had no experience with Bacelli's method, but it commends itself highly to my judgment, and I should unhesitatingly use it if the proper case presented itself.

Malaria is essentially an insidious disease and slowly advances upon us. Its outposts can be readily recognized, if we are but alert. Daily examinations of the tongues of soldiers will often enable us to predict an attack of malaria, and by the prompt administration of quinine abort it. Whenever a soldier looks drawn up, is pale around the gills, has a large, flabby tongue, is stretchy, languid, and seems "dead to the world," put him to bed, administer a mercurial and quinine for a few days, and you will have a new man full of vim and energy. Watch the red blood in the cheek and you will have a good guide. In spite of Manson's mosquito theory, we must not trust to mosquito nettings altogether. Although Celli, Mariano, and Zeri claim that Italians can drink water from the Pontine marshes with impunity, and Grassi and Fetelli claim that blood reeking with myriads of hæmatozoa malariæ can be drunk with safety, boil all water you use, and if possible condense and filter it besides. These gentlemen may be right, but no one believes distilled or boiled water introduces the germ, and thousands do believe that to an impure water supply much, if not most, malaria is due. Avoid all unnecessary turning over of the soil. Have sleeping apartments dry, and let beds be at least two feet from the ground. Above all things, let no soldier do guard duty on an empty stomach at night. A cup of hot coffee or grog should be served. Soldiers should not work in the early hours of the morning before getting bread and coffee.

A word about the diagnosis between the comatose form of various pernicious fevers, which may be mistaken for sunstroke, apoplexy, alcoholism. A careful study of the pulse alone would enable you to distinguish, but, fortunately, there are other points of difference also. The full, bounding pulse, the apyrexia, the congested face, the local paralysis of apoplexy, mark that clearly. In sunstroke we have the soft, compressible pulse, the high pyrexia, no paralysis, hot, dry, flushed skin, and shallow breathing. Alcoholics and those suffering from sclerosis of the coronary arteries of the heart may be included in the class needing to be distinguished. I can not discuss every point, however. A little careful observation will soon make all of you able to readily diagnosticate every form of pernicious paludism. Negroes, as is well known, are far less liable to malarial fevers of all kinds than the whites, and when they do contract the fever it is generally in the ordinary tertian form and very amenable to treatment. The scope of this paper precludes any description of the sequelæ of this Proteus among the protozoa. The most common are hepatitis, nephritis, cirrhosis, anæmias of all grades, a number of paralyses, peripheral neuritis. Let us sum up by saying that by the observance of proper sanitary laws, pure water, food of good quality at proper times, and suitable sleeping arrangements, our army will have little to dread from malaria. Next, by daily examinations of all soldiers, over fifty per cent. of malarial paroxysms can be aborted. Finally, by the heroic administration of quinine in an assimilable form, fully ninety-five per cent. of all malarial cases can be cured.

Dysentery.—A disease that killed last year in Cuba twelve thousand Spanish soldiers and permanently invalided as many more, many of whom went home but to die a lingering death, deserves our most careful consideration. It is beyond the aim of this paper to discuss the various forms of dysentery, such as the catarrhal, the scorbutic, the diphtheritic, etc. I will confine myself to that deadly form found in the tropics, due, in the great majority of cases, to the presence of the amœba in the gastro-intestinal tract. In this connection I would state that congestion and abscess of the liver will be considered at the same time; for, to quote Dutrouleau, "it is then necessary to consider that grave dysentery is always accompanied by lesions of the liver." He advises us to examine daily the liver in dysenteric cases. In all fatal cases of dysentery abscess occurs in one case in four. No one who has ever made postmortems on dysenteric subjects in the tropics could fail to be astonished at the number of *unsuspected* cases of abscess of the liver. It has been truly said that hepatitis is not a complication, it is but another form of the disease, determined by the same endemic cause—the amœba. Let it be distinctly understood that no hard-and-fast definitions of dysentery are applicable here. There are dysenteries without bloody discharges, and bloody discharges without dysenteries (intestinal malarias, intestinal hæmorrhages, etc.) Nor is tenesmus at all necessary.

Symptoms.—An ordinary attack of acute dysentery is usually ushered in without any apparent cause. It comes without any prodromata and under the form of a most innocent diarrhœa. At times this diarrhœa is attributed to sudden chilling, to exhaustion from heat, or from some harmful ingesta. Suddenly large stools at short intervals supervene. They are odorless and ordinarily of a grayish or yellowish color. The first stools may be accompanied by griping, but the reverse is usually the case. In some cases this condition lasts for days or weeks. The patient does not quit his work, but contents himself with home remedies, usually astringent barks. These are the very mild cases which might readily be called diarrhœa. In the great majority of cases, however, the patient presents himself with every evidence of marked debility. He complains of no particular pains; he sleeps well; there is no elevation of temperature; the tongue is at times clear, but generally covered with a muddy coat, and is quite thick. The most careful examination fails to find a grave symptom, and yet this disease gives the highest death-rate of all endemic tropical diseases. The first attack of this disease is usually recovered from, with good attention, though the recovery is always slow and invariably interrupted by many relapses. But should the unfortunate have a second or third attack the case is sadly different. This disease seems to laugh at the physician; it suddenly improves rapidly, and you think your patient on the highroad to recovery, when a change for the worse sets in. All kinds of reasons for these backsets are usually given, such as imprudence in diet, etc. It is the march of the disease which therapeusis can neither check nor prevent. But two routes lie before the patient. First, he may sink into a chronic and hopeless cachexia, or a fever may be lit up and the end hastened. In the latter case the stools change. They become frequent and livid in color. Violent, excruciating cramps occur. The tongue becomes red and pointed; insomnia sets in. There are vomitings and cold sweats. The belly is shrunken, the pulse thready and scarcely perceptible—*C'est fini.* I have drawn the picture true to life, for I wish to impress upon your minds the *very great* importance of not underestimating this disease. Very many of these cases, if correctly diagnosticated and promptly treated, would recover. Soldiers hate the hospital, and they will often conceal for days this deadly disease. A change of climate alone can benefit the first class, and in the case of our soldiers it would be practicable. Be governed by the aphorism of a former surgeon general of the navy of France: "It behooves us to be uneasy about an endemic malady in the tropics." Treat all cases, especially *diarrhœa*, quickly, actively, and continuously.

I have not mentioned the gangrenous form that this disease frequently takes. You will readily recognize it by the nose as well as eye. The terrible tenesmus of the first few hours is fearful to witness. Yet some of these cases recover, strange as it may appear. As I have stated above, the liver is always involved and should be closely watched. During an attack of dysentery, chills at irregular intervals, especially at night, intermitting fever, pain in right hypochondrium or right shoulder, nearly always denote abscess. An aspirating needle will confirm your diagnosis, which, when once made, leaves you no option but evacuation. A free, very free, opening should be made and the wound treated properly. Leave your Dieulafoys at home—use a bistoury and cut wide and deep. If the hepatitis be acute and not suppurative, then you must endeavor to cause the subsidence of the hyperæmia by the administration of small doses of calomel, by dry cups, and by a strict milk diet for a few days. A most valuable remedy in all forms of acute and subacute hepatic inflammations is the nitro-hydrochloric baths night and morning. Take one ounce of the undiluted acid to one or two gallons of warm water. This bath can be used for three days by the daily addition of a teaspoonful of fresh acid in a pint of hot water morning and evening. Place both feet in the bath and sponge the legs, insides of the thighs, and the region of the liver for fifteen minutes. If the bath bites too much, diminish the quantity of acid.

The treatment of acute amœbic dysentery will vary somewhat according to the case. Of all remedies, ipecac has given the best results and opium the worst. For ipecac to be effective it must be given in the first few days, before much destruction has occurred. Powdered ipecac rapidly loses its virtue in hot climates, so only use freshly powdered roots. A bolus containing from thirty to sixty grains is the usual dose. Thirty drops of laudanum should be administered a half hour before, and a sinapism applied over the epigastrium. The patient should be kept in bed, and but little fluid allowed while taking the ipecac. This dose should be repeated in from four to six hours for one or two days. One dose of from ten to fifteen grains of the sulphate of quinine should be given for four or five days in every case of dysentery, unless the microscope fails to detect the plasmodium malariæ. A rigid diet should be observed for several days, but as soon as the powers begin to fail, broiled fish, roast beef, soft eggs, and red wine should be given freely. When the character of the stools changes, subnitrate of bismuth in from fifteen- to thirty-grain doses seems to have a most happy effect; also salol in five-grain doses. When the cases become subacute, most excellent results are frequently obtained from the topical application of nitrate of silver by means of large high enemata. The enema should contain thirty grains of nitrate of silver to the quart, and not less than one quart should be given, preferably two. It should not be repeated oftener than once a day. The older army men can never forget the "blue men" of the army, the soldiers who were the victims of chronic dysentery and nitrate-of-silver pills long continued. No such results follow the topical use of this salt. The best treatment is change of climate and scene, and a fat pension.

Prophylaxis.—Hygiene of camp, hygiene of soldiers, water boiled, distilled, or filtered, or all three. Good drainage, wholesome food, avoidance of excesses of all kinds that render the soldier peculiarly liable to all forms of micro-organisms. All tainted meats, unripe fruit, and everything tending to provoke a simple diarrhœa should be interdicted, for, though such things do not cause dysentery *de novo*, they prepare the way for it. Each patient with dysentery should be separated from his fellows and all discharges should be destroyed by fire and not by some new disinfectant that does not disinfect.

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WHEN AND WHY SHALL WE OPERATE IN INSUFFICIENCIES OF THE OCULAR MUSCLES?

BY ALEXANDER DUANE, M. D.

(*Continued from page 790.*)

THE *indications* for the operation may be thus stated:

1. The symptoms must be pronounced enough to call for treatment. This, which would seem to be an obvious restriction, is disregarded by some who would correct all deflections of the eyes whenever met with, on the ground that they must lead to trouble sooner or later. But, in view of the fact that even well-marked deviations may exist for years without producing any special symptoms, we should prefer to follow the well-understood rule of surgery and leave uncorrected a condition which is causing no disturbance.

2. The muscular anomaly must be more or less constant in presence and amount.

3. The symptoms must be directly traceable to the muscular anomaly. To determine this, we must have sought for and, as far as can be, have eliminated other possible causes of the symptoms—that is, we look for and seek to remedy diseases of other organs, we try the effect of tonics and exercise, and we correct the refraction. When by a process of exclusion of this sort we have seemingly narrowed the question down so as to feel confident that the eye muscles are the cause of the symptoms, we may then test our belief by giving a correction with prisms for temporary use. Prisms prescribed for constant wear are hardly ever of much service as a therapeutic measure—indeed, they often do harm if worn too long—but as a means of diagnosis they are of considerable value, since a case which is benefited temporarily by wearing them is *a fortiori* likely to be benefited by an operation.

4. We must make an accurate diagnosis of the nature and cause of the muscular anomaly. To do this we must not rest satisfied with the statement that our patient has so many degrees of esophoria or hyperphoria, but must find out what is the cause of the esophoria or hyperphoria—*e. g.*, whether it is due to insufficiency or overaction of any special muscle or to underaction or overaction of one of the associated movements of the eyes, or two or more conditions combined.

5. Our treatment must then be directed to the cause so found. Thus, if we are dealing with an esophoria or convergent deviation, we shall, as has just been pointed out, treat it in one way if the esophoria means deficient divergence or insufficiency of one or both externi, and in quite a different way if it means either excessive convergence *per se* or excessive action of one or both interni.

It need hardly be added that an operation in any case must be regulated by the effect to be produced, and hence must be graduated by careful measurements taken before, during, and after its performance.

CASES.*

CASE I. *Left Hyperphoria (due probably to Insufficiency of the Right Superior Rectus); Tenotomy of Right Inferior Rectus, producing Persistent Hyperphoria in Opposite Sense; Tenotomy of Right Superior Rectus a Year later, producing Overcorrection; Permanent Insufficiency of Right Superior and Inferior Recti.*—Mrs. J. D., aged fifty-five years; first seen in 1886. Immature senile cataract in both eyes. Left hyperphoria, 3°; exophoria, 3°; diverging power (abduction), 8°. Examined by another physician, who performed tenotomy of the right inferior rectus. Marked overcorrection (persistent right hyperphoria and right diplopia).†

In December, 1887, he performed tenotomy of right superior rectus, producing apparent restoration of equilibrium. In the course of ten days she developed left hyperphoria, 3°–4°; esophoria, 0°–3°; vertical (left) and homonymous diplopia. Examinations in 1889, 1890, and 1896 gave precisely the same findings. Since 1890 constant vertical (left) diplopia of 2°; very slight homonymous diplopia; by all tests (phorometer and parallax), left hyperphoria 2° and slight esophoria. In 1896 shows left diplopia in the primary position, increasing progressively in upper field, and especially when the eyes are directed up and to the right; below the horizontal plane left diplopia diminishing to zero and ultimately replaced by right diplopia, which is somewhat more marked when the eyes are directed down and to the right. In February, 1898, left diplopia of 4°–6°, increasing considerably in the upper field and, as before, especially when she looks up and to the right.

CASE II. *Exophoria (Divergence Excess) continuing unchanged for at least Nine Years; Asthenopic and Nervous Symptoms developing Later; Tenotomy of Left Externus; Partial Correction of Deflection; Symptoms not relieved by Operation, but relieved by Treatment of Uterine Retroversion.*—Miss N. B., aged seventeen years. First seen September, 1886. Examinations then and frequently afterward (in 1887, 1889, 1892, 1894, 1895) showed:

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* Of the following cases, Nos. 4, 9, 10, 11, 12, 16, 17, and 18 were operated upon by my friend, Dr. A. C. Palmer (now of Richmond), with whom I was then associated, and who shared with me the examination and care of all the cases except Nos. 1 and 2.

† In the following reports, in addition to the terms esophoria, exophoria, and right and left hyperphoria, ordinarily employed, the terms right diplopia (indicative of a vertical diplopia, with the image of the right eye below—*i. e.*, the sort of diplopia produced by a right hyperphoria) and left diplopia (vertical diplopia, with the image of the left eye below) will be employed They were first proposed by the author in the *New York Medical Journal*, August 3, 1889, and have been found very useful in the description of cases, obviating as they do the repeated use of a cumbrous circumlocution.

Refraction (under mydriatic) in 1887, + 0.75 + 0.50, cyl. ax. 90° (each); in 1895,

R. + 1.50, cyl. ax. 75°.
L. + 0.25 + 1.25, cyl. ax. 95°.

V. with glasses, $\frac{20}{20}$.

Muscular Tests.—Exophoria for distance, 6°–8 (at times rising to 15°); prism divergence (abduction), 12°–18° (usually 14°); prism convergence (adduction) normal (over 33°). Usually binocular fixation, but occasionally right eye diverges. Sometimes crossed diplopia when the eyes are turned to the left.

Symptoms and Treatment.—In 1887 asthenopia and headaches, relieved by use of glass (+ 0.25 + 0.50 cyl. 90°, and + 0.50 + 0.50 cyl. 90°). Later, alternating periods of good and ill health; the latter characterized by gastric irritability, insomnia, physical and mental depression, nervous irritability, great proneness to fatigue, asthenopia, pain, and feeling of unsteadiness in eyes, neuralgic pains in the legs, etc. These symptoms gradually became more well-marked and continuous, and by 1894 were present nearly all the time, so that the patient was sinking into a condition of chronic invalidism. In April, 1895, *tenotomy of left externus* (made rather free, and then limited by a suture), considerable immediate relief resulting from operation. After removal of suture, exophoria still 4°. Eight or nine days after operation something seemed to give way in wound, and an esophoria of 6°–8° developed, with pain, sense of unsteadiness, and distress in using eyes. Gradually exophoria returned, and by October, 1895, had become 3°–4° for distance, 6°–10° for near (more by screen test than phorometer). Convergence near-point (fusion near-point), 3″–4″ from root of nose. Prism divergence (abduction), 12°; convergence somewhat limited (less than 30°)—*i. e.*, a condition of moderate convergence insufficiency had been added to the condition of divergence excess originally present. Practice of convergence with prisms helped to relieve this convergence insufficiency, and at last examination (October 12, 1897) showed only 10° exophoria for near, 3° for distance, prism divergence 12°, prism convergence over 30°, convergence near-point two inches and a half from nose, power of inversion of either eye over 60°, power of eversion 55° (right eye), 45° (left eye). For a long time after operation asthenopia very marked, and other symptoms continued. Asthenopia considerably relieved by prescription in October, 1895, of cylinders of full strength (+ 1.25 D.).

In 1896 began treatment for uterine retroversion. Marked improvement in all the symptoms.

CASE III. *Esophoria (Slight); Severe Asthenopia Cephalalgica; Operation; No Relief.*—Viola B., aged twenty-one years; seamstress. Severe frontal headaches occurring every day. Never free from them, except when she goes away in summer, when she does not use her eyes for any sort of work. Momentary attacks of vertigo and faintness. Blurring of sight for near.

Refractive and muscular conditions, May 13, 1889: V. (atropine) $\frac{20}{30}$ each.

R. + 0.50 + 0.50, cyl. ax. 65°, $\frac{20}{20}$ +.
L. + 0.50 + 0.50, cyl. ax. 105°, $\frac{20}{20}$ +.

Esophoria, 0°–4° (phorometer and parallax); no constant vertical deviation. Prism divergence, 4°–6°. Prism convergence by practice carried to 36°.

Treatment and Course, May 18, 1889.—Tenotomy, left internus (slight). Little permanent effect on deviation. Some temporary improvement in headaches. June 25, 1889, tenotomy of right internus (carried further on following day), after which ultimately practical orthophoria (with her sphero-cylinders slight exophoria) and prism divergence of 7°+.

Glasses afforded some relief to the headaches; but the latter still continued, and were very troublesome when she was seen a year later.

CASE IV. *Esophoria (Accommodative Convergence Excess); Hyperphoria; Asthenopia Cephalalgica and Aprosexia; Operations; Recurrence of Esophoria after Operations; Symptoms persisting after Operation, and relieved finally by the Use of Proper Glasses.*—A. B., male, about forty-five (?) years. First seen May 23, 1889. Dull headache, confusion and sense of pressure in head when reading; aprosexia; failure of memory. Using − 0.25 cyl. ax. 180° ⌣ prism. 1° base out, prescribed November, 1888.

Muscular Conditions.—Esophoria, 2°–5° (phorometer and parallax); right hyperphoria up to 2° (phorometer and parallax); prism divergence, 4°–5°; prism convergence, over 36°. Can produce homonymous diplopia of almost any amount by what he calls relaxation of the eyes (eyes then turning in perceptibly). This, associated with accommodative effort (monocular near-point of distinct vision is brought a little closer to the eyes). Also has involuntary homonymous diplopia both for distance and near.

Treatment and Course.—Tenotomy of right superior rectus (June 19, 1889), left internus (July 28, 1889), left inferior rectus (January 28, 1890), right internus (April 5, 1890). Final result: Right hyperphoria, $\frac{1}{2}$°; esophoria, 1°–2°; prism divergence, 6°–7°. When he "relaxes" eyes has homonymous diplopia of over 20°, and esophoria (by phorometer and parallax) of over 15°. Symptoms persistent.

In August, 1890, under atropine shows:

R. + 1.25 + 0.50, cyl. ax. 90°.
L. + 0.75 + 0.25, cyl. ax. 90°.

To use:

R. + 1.00 + 0.50, cyl. ax. 90°.
L. + 0.50 + 0.25, cyl. ax. 90°.

October 18, 1890, sense of strain relieved by glass. No more headaches. Feeling very much better in every way, except for sense of dullness and pressure in head, which is apparently due to nasal obstruction. Esophoria, 0°; right hyperphoria, trace; prism divergence, 6°. No diplopia now, except as he produces it by voluntary effort ("relaxation").

CASE V. *Hyperphoria; Alternating Esophoria and Exophoria (Divergence Insufficiency); Headaches and Nervous Prostration; Operations producing Temporary Convergence; Insufficiency with Asthenopia; Marked and Permanent Relief of Symptoms.*—Miss E. W., aged twenty years. In poor health for years, without apparent cause; headaches; impairment of nutrition; symptoms of nervous prostration. Using—

R. − 1.00 D. L. − 1.75 sph. ⌣ − 0.75 cyl. ax. 180°.

Muscular Conditions, May, 1889.—Right hyperphoria, 0°–3 or 4° by numerous repeated tests (phorometer and parallax). Alternate exophoria and esophoria. Crossed and vertical (right) diplopia. Prism divergence, 3°–8°.

Treatment and Course.—Tenotomy of right superior rectus, after which left hyperphoria $\frac{1}{2}$° (or, with refraction corrected, 0°). Still alternate esophoria and exophoria, with tendency to predominance of former. Prism divergence at times only 2°. July 8, 1889, tenotomy of left internus, after which exophoria 4°; prism divergence, 7°–8°; convergence of 30° (done with great difficulty); also, July 10th, prescribed—

R. − 1.00, sph. ⊂⊃ − 1.00, cyl. ax. 15°.
L. − 1.75, sph. ⊂⊃ − 1.25, cyl. ax. 180°.

At first asthenopia, headache, pain in eyes, and diplopia in reading (temporary loss of convergence as result of operation on internus). Later became quite well, increased in body weight and strength in a very noticeable manner, and remained well, strong, and free from disagreeable symptoms, even though she discarded her glasses. So still in January, 1890, and later.

CASE VI. *Hyperphoria; Nervous Irritability and Dyspepsia; Operation; Symptoms much relieved.*—Mrs. L. S., aged thirty-five years (?); nervous; irritable; suffers a good deal from flatulent dyspepsia and has occasional headaches. Using—

R. + 0.50, cyl. ax. 90°.
L. + 0.50, cyl. ax. 20°.

Under homatropine shows—

R. + 0.75, sph.
L. + 0.25, sph. + 0.50, cyl. ax. 55°.

Muscular Conditions, May, 1889.—Right hyperphoria, 1°–1½°, and ultimately over 2°. Prisms of 2° very comfortable. Right sursumduction is 2° greater than left. Esophoria, 1°–2°; prism divergence, 8°–10°; prism convergence, 22°–24°.

Treatment and Course.—Gave correcting glass, as found under homatropine. Tenotomy of right superior rectus (June, 1889) and (July 15, 1889) tenotomy of left inferior rectus leaving very slight but persistent right hyperphoria. Left sursumduction trained up to 5° + and prism convergence to over 37°. In October, 1890, reports that her nervous symptoms had improved, and that she had gained sixteen pounds. Seems much better. No headaches at first, but since an attack of *grippe* has had a good many. Has no difficulty in reading when she uses her glasses. Does not use them for distance.

CASE VII. *Hyperphoria; Headaches and Asthenopia; Operation; Complete Relief of Headaches.*—Mrs. S., nervous and hysterical. Frequent headaches, especially sick headaches, particularly when she uses her eyes; pain in the occiput and between the shoulders when she sews; asthenopia and itching and pain in the eyes brought on by reading.

Muscular and Refractive Conditions, June 3, 1889.—Under homatropine shows + 0.50 cyl. ax. 90°, each. Right hyperphoria, 1°, increasing up to over 3° when patient wears partially correcting prisms. Prism of 3° very well borne, and patient reads comfortably with them. Exophoria, 1°–3°. Prism divergence, 5°–6°.

Treatment and Course, June, 1889.—Tenotomy of right superior rectus, leaving still right hyperphoria ½°. Left sursumduction trained up to 6°. Cylindrical glasses prescribed.

January 9, 1890.—Reports that she can not wear glasses and that they make her head ache. No sick headache since operation (six months).

CASE VIII. *Excessive Mobility of Eyes, due to Peculiar Laxity of Tendons, and producing Alternate Divergent and Convergent Strabismus; Constant Headaches; Tendons tightened by Repeated Advancements; Almost Complete Correction of Deflection; Headaches Entirely relieved, and Marked Improvement in General Condition.*—Miss M. T., aged eighteen years. Marked divergence of eyes noticed ever since attack of diphtheria nine years ago. Anæmic and poorly nourished. Headaches recurring every day.

Muscular Conditions, June, 1889.—Eyes excessively mobile. Under ordinary conditions, with both eyes uncovered, one or the other (usually the left) diverges noticeably, and this divergence is also marked when a screen is shifted alternately from one eye to the other. Corresponding to this there is a marked crossed parallax (subjective test for divergence). When, however, the phorometer is used, or even when a red glass is placed before the eye, the eyes converge very markedly, so that she then shows an esophoria of 12° to 20° for distance, and of 4° for near, and an homonymous diplopia which gradually increased from 4° up to 77°, and which is at present at all distances from twenty to two feet! Prism divergence at first 12°, afterward 0°, and finally negative (*i. e.*, still gets homonymous diplopia with low degree of prism, base out); prism convergence 30° and upward.

These apparently contradictory findings were substantiated by many examinations repeated on successive days. At first had difficulty in recognizing diplopia with prisms. Showed evidently extraordinary facility in converging and diverging the eyes, but lack of ability to coordinate these movements properly for purposes of fixation.

Treatment and Course.—As the excessive convergence was the most obvious factor, advancement of the right externus and subsequent tenotomy of the right internus were performed in July, 1889. These operations were supplemented by systematic exercise of the divergence. By these means the esophoria was reduced to 0° and the prism divergence increased to 4°. As the esophoria showed a tendency to recur, similar operations were performed upon the left eye. The result was a marked overeffect, insufficiency of the left internus, with crossed diplopia of 20°–30°, developing. Prism convergence reduced to 0°, but increased by exercise to 20°. Repeated advancements of both interni supplemented by tenotomy of the externi were required to remedy this divergence, and it was not till the following March that the eyes were placed approximately in balance. An operation was also done (February, 1890) to remedy a left hyperphoria of 4° or more that was then apparent. In May, 1890, showed under mydriatic

R. + 0.50, sph. ⊂⊃ + 0.50, cyl. ax. 90°,
L. + 1.00, sph. ⊂⊃ + 0.50, cyl. ax. 80°,

and the following were prescribed:

R. + 0.25, sph. ⊂⊃ + 0.50, cyl. ax. 90°.
L. + 0.75, sph. ⊂⊃ + 0.50, cyl. ax. 80°.

A *peculiar anatomical condition* was present, serving to explain the peculiar way in which the muscles acted at the outset. The tendons were strikingly lax, thin, and ribbonlike, and their lateral attachments were scanty and slight. Hence, doubtless, the excessive unrestrained mobility of the eyes, producing a squint alternately divergent and convergent. Hence, too, the cause of the failure in the second series of operations. It was found extremely difficult to anchor securely the detached tendon in performing an advancement, and the tendons repeatedly gave way, so that the operation had to be done several times before a lasting effect was produced.

Results.—The immediate effect of the first operation was surprising. Before it, the patient had been having headaches every day. After it, she had but one in six weeks. This good result was maintained, as for the whole year ensuing she had but five headaches altogether. In October, 1890, no headache; general condition and appearance very greatly improved. Exophoria varying, usually only 3° or 4°; prism divergence, 15°; no diplopia.

In a recent letter (October, 1897) the patient says that her general condition continued good until two years ago, when she became affected with chronic diarrhœa, which lasted until three months ago. This reduced her strength very much, and recently she has begun to suffer again from headaches, from which she had hitherto been almost entirely free. Left eye occasionally diverges (showing evidently some remaining weakness of left internus), but she never has diplopia unless she forces herself to see double in exercising adduction and abduction. Hardly uses her glasses, but with them the eyes feel stronger and are steadier.

Case IX. *Hyperphoria; Esophoria (Divergence Insufficiency); Headaches and other Nervous Symptoms; Mental and Physical Prostration; Operations; Symptoms unrelieved.*—Edw. P., aged about forty years. First seen July 2, 1889. Pterygia on inner side of either eye removed two years before, and + 0.50 sph. ⌢ + 0.50, cyl. 90°, each eye, given for reading. Very nervous; muscular tremors; feels weak and good for nothing; lumbar pains and frequent headaches; attacks of indigestion, when nervous symptoms are most pronounced. Anæmic and poorly nourished. Has been repeatedly examined and pronounced physically sound in every way.

Muscular Conditions.—Left hyperphoria, ½°–1½° (trial prism of 1° for correction of hyperphoria pretty comfortable; 2° not). Esophoria, 3°–4°; prism divergence, 3° (or at times only 2°); prism convergence, 25°.

Treatment and Course.—Tenotomy of left superior rectus, completely doing away with hyperphoria. Tenotomy of right internus, and eight months later of left (very free), supplemented by forced traction with forceps and by exercise of divergence. Nevertheless, esophoria tended constantly to recur, and after second operation patient showed esophoria, 2°; hyperphoria, 0°; prism divergence, 6°. General condition but little improved.

Case X.—*Exophoria (Divergence Excess) and Intermittent Divergent Squint; Asthenopia; Operations; Temporary Relief of Deflection and Asthenopia.*—N. M. O., male, aged sixteen years. Moderate asthenopia; when he reads, one side of page suddenly transfers itself to the other (spasmodic crossed diplopia).

Muscular and Refractive Conditions, July, 1889.—Right eye emmetropic; left accepts + 0.50 D. When he looks steadily, has esophoria of 2° and prism divergence of 7° or 8°. Has a tendency to "relax"* the eyes, when the exophoria rises to 10°–15° and the prism divergence to 16°, and he has crossed diplopia of 13°. Prism convergence 8° (increased by exercise to 65°). No hyperphoria.

Treatment and Results.—Advancement of both interni and tenotomy of both externi, with exercise of the prism convergence (up to 76°).

Final result, when treatment was discontinued, October 5, 1889, exophoria, 0°–1°; prism divergence, 8°; prism convergence, over 68°. July 2, 1890, muscular conditions same. No trouble in reading.

About a year after operation noticed that he could by voluntary effort make the eyes diverge again, although the degree of divergence was not so great as before. Also began to suffer from asthenopia. Tenotomy of externi performed by Dr. Dunn, of Richmond, who also gave him prismatic glasses. Asthenopia continued. In September, 1893, left eye was blinded by a gunshot injury.

Case XI.—*Exophoria and Intermittent Divergent Squint (Divergence Excess); Asthenopia and Diplopia; Operations; Improvement.*—Bessie M., aged nine years; asthenopia, blurring of sight, and diplopia in reading.

Muscular and Refractive Conditions, July, 1889.—V. $\frac{18}{15}$ each, with + 0.50 cyl. ax. 180° (examination without mydriatic). Exophoria, 6°–18° (phorometer and screen); prism divergence, 25°; prism convergence, 23°. At times single vision, at times crossed diplopia.

Treatment and Results.—Tenotomy of left externus, July 19, 1889, followed by exercise of convergence with prisms (up to 50°). Exophoria reduced to 1°, but increasing again to 6°–10° in the following January. Tenotomy of right externus, February 1, 1890, by which exophoria was reduced to 0°–4°, but in the following May had risen again to 10°. This was again reduced to 0°–2° by systematic exercise of convergence (up to 65°), and this condition of balance remained for eleven days, when she passed from under observation.

From a letter received in October, 1897, it appears that the deviation recurred to a certain extent, although at what time it did so can not be made out. For some years after the operation there was no difficulty in the use of the eyes. In 1894 she began to have headaches when using eyes for sewing, and it was found that she was becoming nearsighted. Thereupon correction of the refraction (—1.75 sph., July, 1895, and —2.50, March 17, 1897) relieved both the headaches and deviation. The recurrence of the latter must probably, therefore, be ascribed to the development of a convergence insufficiency dependent upon the development of the myopia.

(To be continued.)

DIPHTHERIA.*

By JOHN E. WALSH, M. D.,
BACTERIOLOGIST AND MEDICAL SANITARY INSPECTOR FOR THE DISTRICT OF COLUMBIA.

I have chosen for my paper this evening the subject of diphtheria, not because of anything particularly new that I have to offer—although some things mentioned are somewhat different from the generally accepted idea of this disease—but because of its seasonableness and because, notwithstanding all that has been said and written about it, this disease is not well understood by a large number of physicians in active practice to-day.

There are many who still cling to the idea that it is merely a local disease, and that as soon as the membrane has disappeared the patient is cured and unable to communicate the disease to others. The fallacy of this view is shown by the fact that from cases attended by these men we can often trace others, and in some instances, weeks after the membrane has disappeared, sudden death of the patient has occurred, showing that he had not recovered when the throat was clear.

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* As elsewhere pointed out (*Motor Anomalies of the Eye*, p. 25), the divergence and crossed diplopia in this and similar cases are not due really to a "relaxation" or simple passive process, but to an active simultaneous contraction of both externi.

* Read before the Medical and Surgical Society of the District of Columbia, February 3, 1898.

My association with this disease in the capacity of bacteriologist and medical sanitary inspector for the District of Columbia has so changed my conceptions of it, that I have ventured to occupy a small portion of your time with some of the results of my experience.

It is not necessary to go into its history to any extent. It is a very old disease and has prevailed endemically, and often epidemically, from the time of Hippocrates.

Baillou, a French physician in the latter part of the sixteenth century, was the first who published an accurate description of it, and up to the time Bretonneau published the result of his investigations in 1826 there was much written of it under different names. Bretonneau gave it its name, meaning "leathery," from the appearance of the membrane, which was thought to be a necessary accompaniment of the disease.

The name diphtheria was a good one and served to distinguish the affection until the present time when, I think that, owing to the fact that a membrane is produced by three different organisms, two of which produce a condition not dangerous as regards life, this name should be discontinued and a more appropriate term used. I have seen cases where no membrane at all was present, but in which the Klebs-Loeffler bacilli were found, and where the patient died of toxæmia. So that it is inappropriate to call such a case diphtheria and apply the same term to a condition not dangerous.

The organisms producing the different forms of diphtheria are, in the order of their severity, the *Staphylococcus pyogenes,* the *Streptococcus pyogenes,* and the Klebs-Loeffler bacilli. As proper terms for these conditions I beg to suggest the following: Staphylo-angina, strepto-angina, and angina Klebs-Loeffler.

It might be well, before proceeding with the consideration of the latter disease (which, to avoid confusion, I shall still call by its old name in this paper), to say a few words of the first two for the purpose of diagnosis, although a positive opinion can not be rendered without a bacteriological examination.

Staphylo-angina is a comparatively mild affection, coming on suddenly with considerable constitutional disturbance. The pulse is very rapid and the temperature rises very quickly to 103° F. or higher, returning to normal about the second or third day. Sometimes it is ushered in with a slight rigor, accompanied with pain in the back and limbs.

There is considerable pain on deglutition and the tonsils are seen to be red, swollen, and congested, with follicular ulcers seen here and there over their surfaces. This disease terminates in recovery in a few days.

Strepto-angina is the most painful of these throat affections. In this form, the temperature rises more gradually to 102° or 103° F. and remains stationary for several days. The inflammation is not confined to the tonsils, but extends usually on the pharynx, posterior nares, and all the tissues of the fauces, and by invasion of the Eustachian tube causes a difficulty in hearing. Sometimes there is a swelling of the glands of the neck, and there is great pain on deglutition, and often much prostration.

The membrane does not usually cover all the inflamed surface, and is thin, of a yellowish-white or grayish-white appearance. This disappears in a few days, but the swelling of the tonsils and other tissues remains for several days and recovery is slow.

In angina Klebs-Loeffler, as its name indicates, the exciting cause is the bacillus recognized first by Klebs in 1883, and cultivated and described by Loeffler in the following year.

This, I believe, is pretty generally admitted at the present time to be the germ of this disease, although many, because of its presence in healthy throats and others very slightly affected, contend that it has nothing to do with its causation. Before proceeding to the consideration of the disease itself, it might be interesting to say something regarding the technique of cultivation and examination of the germ, about which questions are often asked.

The blood from which the serum is prepared is collected at the abattoir in large tin pans and allowed to coagulate, care being taken to separate the clot from the sides of the vessel. After twenty-four or forty-eight hours the blood plasma is drawn off as clear as possible. Three parts of this serum are mixed with one part of peptonized bouillon to which has been added one per cent. of grape sugar. This mixture is run into the tubes, which have been previously sterilized by heat, and arranged in a slanting position in a coagulator, where they are allowed to remain at a temperature of about 85° or 90° C. for three hours on two successive days. This is done for the purpose of solidifying the serum and to kill the spores. It is sometimes necessary, but not often, to expose them for three days.

These are the tubes that are obtained from the stations about town accompanied by a sterilized swab, and upon which the culture is made from the throats of suspected cases. When these tubes are received at the laboratory they are put into a thermostat or incubator and left there for about twelve hours at the temperature of the body, about 37.5° C. They are then taken out to be examined under the microscope. In nearly every culture there is a growth of some sort, but occasionally there is a failure, owing, perhaps, to the culture having been taken immediately after the application of an antiseptic to the throat, the surface of the serum having been broken, dryness of serum, or some other condition rendering the germs sterile.

If, after you have submitted a culture for examination, you receive a report that it contains no growth, do not think that it necessarily indicates a favorable condition of your patient, for whether or not he has diphtheria there should have been a growth of some organism, which is prevented by one of the conditions mentioned.

A small portion of the growth in the tube is taken off on the end of a sterilized platinum needle, mixed with water on a cover slip or slide, and spread over its surface. This is allowed to dry in the air, after which it is passed through the flame of a Bunsen burner to kill the germs, and then stained. When viewed under the microscope with a twelfth-inch oil immersion lens the field is seen to be covered with a variety of bacteria. Sometimes, but rarely, the field seems almost entirely filled with the diphtheria bacilli, but more often these are associated with various germs. Sometimes this organism predominates, and at others it is necessary to carefully examine several fields to find it or to say positively that it is absent from the culture.

The Klebs-Loeffler bacillus assumes a variety of shapes and sizes, all of which are characteristic in the manner in which they take the stain.

Some are short and so closely resemble the so-called pseudo-diphtheria bacillus that it is impossible to distinguish between them. Some are straight, with ends stained deeply; others spindle-shaped; others clubbed at one or both ends; some short-curved and some long-curved, but all show the fractional staining.

I have not been able to determine that the size or shape of the bacilli bears any relation to the severity of the disease, although it is said that the short organism is found in the milder cases. My experience has not proved this, for the short bacillus is often present in fatal cases and the long in mild. The largest bacillus that I have noticed was obtained from a case of diphtheritic conjunctivitis by Dr. Butler.

It is often stated that the Klebs-Loeffler bacillus can be found in healthy throats—in fact, is found in every throat—and therefore is not a necessary accompaniment of the disease. This statement is by no means accurate. True, you do have the germ in apparently healthy throats, but these persons are merely immune as regards themselves and are capable of communicating the disease to others. We often see cases illustrating this, and I believe that is the principal mode of dissemination of the disease. Some time ago a culture was examined from the throat of a girl about twelve years of age and showed the presence of the diphtheria bacilli. She did not have any other symptom of the disease, yet she conveyed it to two sisters, one of whom died. In a certain family there was a girl suffering from this disease who presented all the clinical evidences as well as the presence of the germ. Another member of the family had been under treatment by one of the advertising specialists (?) for catarrh for a month. A culture taken from his throat to demonstrate the method of taking it contained the germ. It was suggested to the attending physician that cultures be taken from the other members of the family. This was done and the germ found in two of them, although they presented no symptoms. They were isolated and, although the bacillus persisted for from three to six weeks, they were never sick. Previous to their isolation cases occurred in the houses of each side of them among their playmates, but afterward no cases occurred in the neighborhood.

The experience of the New York Infant Asylum * illustrates this, as well as the benefit to be derived from immunization by antitoxine. In that institution there occurred a hundred and seven cases between September and January, 1895, an average of thirty cases each month. In October bacteriological examinations of the throats of all the healthy children showed the bacillus present in so large a number that to isolate them nearly one half of the inmates were quarantined. January 16th two hundred and twenty-four children were given immunizing doses of antitoxine. During the following month, to February 15th, only one case occurred. On that date a second case appeared, and between that and the 27th five more. On the 27th antitoxine was administered to two hundred and forty-five children, and no more cases occurred for thirty-one days. Before isolation and immunization they had a hundred and seven cases in a hundred and eight days, while afterward there occurred only five cases in a hundred and twelve days. In one of the institutions here several cases of diphtheria occurred one after another in a certain ward. Finally, after five or six cases had occurred, cultures were taken from all the throats, about twenty or thirty, I think, and in four or five were found the germ. These were isolated and injected with antitoxine, the ward disinfected, and no more cases occurred in the institution.

In regard to the time the bacillus may persist after the membrane and all symptoms of the disease have disappeared, Park and Beebe, 1894 (Sternberg), examined 2,566 cultures from the throats of 605 convalescents, and found that in 304 cases the bacillus was absent in three days after the disappearance of the exudate, in 176 in seven days, in 64 in twelve days, in 35 in fifteen days, in 12 in three weeks, in 4 in four weeks, and in 2 cases it persisted for nine weeks.

In my examinations of about 2,500 cultures from about 800 recoveries I have found it absent as early as the sixth day, and present as late as the eighth week. Dr. O'Malley mentioned a case in which the germ was present for eleven weeks, when the case passed from his observation. A pure culture taken at the end of the tenth week injected into a guinea-pig caused its death in thirty-six hours.

The period for which it persists seems to bear no relation to the severity of the attack, the season of prevalence, the age of the patient, or his environment; nor does the administration of antitoxine affect it. I have seen the germ present in the throats of mild cases for from three to six weeks, and in severe cases disap-

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* *Medical News*, vol. lxvii, No. 22.

pear in ten days after the symptoms have entirely abated. To show the average persistence of the germ at different ages for winter and summer, the following is submitted:

	Under 2 years.	2 to 5 years.	5 to 10 years.	10 to 15 years.	15 to 20 years.	Over 20 years.
Winter . . .	24 days	25 days.	23 days.	23 days.	28 days.	21 days.
Summer . .	25 " .	20 "	19 "	13 "	25 "	19 "

Some time ago I made an investigation to determine if the administration of antitoxine shortened the quarantine, and as a result found that the period of isolation in cases where antitoxine was used was twenty-four days, and where it was not, twenty-five days, practically no difference. It seems to be present as long in the throats of children living in the country, who are allowed to go about in the fresh air, as in those who are shut up in rooms in the city. I have now under observation two patients living in the country from whose throats the membrane disappeared more than eight weeks ago, but in whom I still find the germ.

In regard to the pseudo-diphtheria bacillus, that is an organism we can not, from a sanitary standpoint, recognize. Cultures are sent to the laboratory from persons who have diphtheritic symptoms sufficiently suspicious to induce the physician to take them, and as it is not possible, by a microscopic examination alone, to differentiate them, all organisms having their characteristics are called diphtheria bacilli, and I think from the history of such cases afterward that mistakes are not often made. This organism, found by Loeffler, von Hoffmann, Roux, and others, is almost identical with the true bacillus except that when grown upon blood serum it is shorter, but as we also have a short variety of the true bacillus it is not of any account. Just what relation exists between the true and false bacilli has not been determined. Dr. Kinyoun has been conducting experiments at the Marine-Hospital laboratory to determine if by repeated inoculations it can be made virulent, but with what success I do not know.

While the Klebs-Loeffler bacillus is the great cause, and without it one can not have diphtheria, yet there is another condition necessary. This we characterize by that indefinite term "susceptibility." What causes this susceptibility, or rather what produces immunity from the disease, has not yet been made manifest; when it has, then we shall have found the proper means by which this disease can be eradicated. I think the systematic examination of the blood of persons suffering with the disease, of those who have recovered, and of those who have the germ in their throats and yet have no symptoms, will throw much light upon this important subject. Some work has already been done along this line by Morse, Ewing, Engle, Billings, and others.

Susceptibility to this disease is not a family characteristic, although some writers contend that it is. Comparatively few persons in families who have been exposed to the contagion before isolation of the patient contract it. It has been the general impression that the disease prevailed to a greater extent among the poor, badly nourished, and those who live in overcrowded, squalid, damp, unsanitary dwellings without sewerage, etc. But the results of my investigations extending over nearly two years have proved that, in this city at least, such conditions do not influence its prevalence. On the contrary, it seems to be more common among the moderate and well-to-do classes. I find that it more often attacks those who have been bountifully supplied with the necessaries of life and many of the luxuries—good, dry houses with sanitary plumbing and hygienic surroundings.

Of the cases investigated, only ten per cent. were in the midst of bad surroundings, 2.9 per cent. in overcrowded dwellings, and 16⅔ per cent. among the poor. Why this should be so I know not, unless it is due to the fact that those who are not the favorites of fortune lead lives as a result of their privations that render them better able to withstand the onslaught of the germ. Their general system is kept in better condition because the food they eat is better suited for sustaining life without producing disorders of digestion. They are not overclothed and are not compelled to remain indoors, but spend the greater part of their waking hours in the fresh air and sunshine.

That fresh air and sunshine are factors in decreasing the prevalence of the disease is shown by the fact that during a period of dry, sunny weather, the number of cases reported to the health department is materially decreased, while after damp, cold weather the number is greatly increased. The children of the wealthier class are reared under more artificial conditions. They are not allowed to go out except in good weather, are often overclothed, especially about the throat, and inhabit rooms that are often overheated, so that when exposed to any sudden change they are prone to suffer more or less from inflammations of the mucous membranes of their throats, thus rendering them more accessible to the entrance of the toxine should they come in contact with the germ.

As regards color, the white race is more susceptible to diphtheria than the colored. During the year 1895–'96 the proportion of our colored population affected with the disease was 4.55 to each 10,000, while among the whites it was 15.25 to each 10,000. And during the year 1896–'97 it was 15.5 for the colored and 25.5 for the white to each 10,000. While the disease is not so prevalent among them, the mortality is higher in the colored race, due probably to their being unable to secure proper nursing and diet. During the past year the colored mortality was 23.3 per cent. and the white 16.1 per cent.

Although no age is exempt from it, the disease more commonly affects children, especially under twelve years of age. During the past two years the ages of those suffering from diphtheria were as follows:

Under 1 year	14
Between 1 and 3 years	182
Between 3 and 12 years	551
Between 12 and 18 years	79
Between 18 and 25 years	54
Over 25 years	66
Total	946

It is noticed that those in early life are the greatest sufferers, probably for the reason that being in the formative stage of their existence they are more susceptible, and also because at that age in their school life and sports they are brought into more intimate relation than later, and thus the opportunity for acquiring the disease is increased.

As regards sex, the disease is slightly more prevalent among females.

The contagion of diphtheria is conveyed from one person to another by direct contact. The disease is not given off in the breath except during expulsive efforts at coughing. The affected individual puts his hands to his mouth, gets some of the germ-laden saliva upon them, brings them into contact with the bed or the dress of the attendant, who, unless she changes her garments before leaving the apartment, carries it to other parts of the house, where it may be picked up on the clothing of others and taken into the street. There it may die without doing any harm, or may be carried to some susceptible person, and thus a new focus is formed. Sometimes a child has the germ in its throat several days before symptoms appear, and in the mean time attends school, sowing the "seeds of the disease." Books and other school articles are the means of spreading it. Some time ago four children in a school were taken sick with the disease, and upon investigation I found that two of them occupied the same seat—one in the morning and the other in the evening; one sat behind and the fourth across the aisle. A year or two ago a child attended a certain private school for several days before it was discovered that his brother's sickness was diphtheria. In less than a week there were twenty cases among the pupils and families of the pupils who attended the school.

Symptoms.—As this disease is primarily a local one, the first symptoms are referable to the throat. There the germ finds lodgment and produces the toxine which, absorbed into the circulation, causes the constitutional disturbance. The period of incubation is short, probably two or three days. In my own case, if you pardon personalities, just about forty-eight hours after taking the germ into my mouth, I felt the first symptoms of the disease. The general symptoms vary according to its severity, although often what appears to be a mild case as regards the throat symptoms may end fatally. I have in mind two children of a family who were attacked with the disease after another had died. When seen, these children seemed perfectly well and complained of no soreness of the throat; there had been no membrane formed, only catarrhal inflammation apparently: so mild, in fact, that except for the death of the first child the physician in attendance would not have believed it to be diphtheria. Yet in less than ten days both died of syncope. In my throat there was never any membrane found. The fauces were congested, the tonsils swollen and turgid. Yet the general symptoms were severe. There was loss of appetite, great pain in back of neck, across the back, in the arms and the calves of the legs, and a slight soreness in the throat. There was great prostration and the pulse was weak, rapid, and irregular. These two cases illustrate the simple form of the disease so far as the throat symptoms are concerned.

Then there are other cases where there is very little formation of membrane on the tonsils extending to the pillars of the fauces and pharynx. A more severe form is seen where the membrane involves the tonsils, fauces, pharynx, nose, nasopharynx, and sometimes extends forward on the tongue, roof of the mouth, and cheeks. Sometimes it extends downward into the larynx, producing the most dangerous form of the disease. The disease germs occasionally extend downward into the bronchioles and air vesicles. Recently a child died from croupous pneumonia at one of the hospitals here and an autopsy was performed, cultures being made from the lungs. Instead of finding the diplococcus in as large numbers as was expected, the culture was almost pure of the Klebs-Loeffler bacilli.

In those cases where the constitutional disturbance is marked the onset is gradual. For a day or two there is malaise, and perhaps a little tenderness on attempting to swallow. As a rule, the temperature is not high, but ranges from 100° to 103° F., and, continuing so for four or five days, drops to normal. As the membrane continues to spread, the constitutional symptoms become more pronounced. There is much prostration, muscular weakness, rapid, weak, irregular pulse, and anæmia. In some cases there is a discharge of mucus from the mouth and nose, sometimes hæmorrhage, and generally the breath of the patient is very fœtid. In most cases the glands about the angles of the jaws and neck are much enlarged. That the membrane has invaded the larynx is indicated by a croupy cough and by dyspnœa becoming more pronounced with the extension of the membrane. The recovery is often very slow, or the patient may die from occlusion of the larynx, paralysis of the heart, nephritis, or broncho-pneumonia. Paralysis and nephritis are the most common complications and sequelæ of the disease.

Treatment.—In regard to treatment little need be said, for aside from the administration of antitoxine it is altogether symptomatic. Absolute quiet of the patient in a recumbent position and an easily digestible diet are imperative. For the cardiac weakness give digitalis and strychnine, and for anæmia the best combination is, in my opinion, elixir of iron, quinine, and strychnine. Stimulants should be used only when needed. Intubation or tracheotomy may be necessary to prevent asphyxia.

Our great standard now is antitoxine, whose property for saving life is simply wonderful. This should be given as early as possible and in doses large enough to overcome the toxine. It is unnecessary to go into statistics to any great extent, but I will give the results of treatment with and without it in this city during the past two years and a half.

1895–'96.

Cases treated with antitoxine	174
Cases treated with other methods	152
Died after administration of antitoxine	23
Died after other methods of treatment	53
Mortality with antitoxine	13.2 per cent.
Mortality without antitoxine	34.9 " "

The mortality of those under twelve years of age in the antitoxine class was 16.3 per cent., and in the non-antitoxine class 41.5 per cent.

1896–'97.

Cases treated with antitoxine, 285—deaths, 21; mortality, 7.3 per cent.
Cases treated without antitoxine, 335—deaths, 89; mortality, 26.6 per cent.
Cases under 12 years of age, first class, 235; mortality, 8.9 per cent.
Cases under 12 years of age, second class, 256; mortality, 33.2 per cent.

During these two years there were no deaths among 86 persons over twelve years of age treated with antitoxine, while of 113 not so treated eight succumbed. As time progressed physicians used this remedy with a more liberal hand and earlier in the disease, so that during the past seven months the results have been most gratifying. Of 422 cases reported, 211 received antitoxine, 190 did not, and in 21 cases the method of treatment is unknown. Among the antitoxine cases only 8 died, giving a death-rate of 3.8 per cent., while of those not so treated 65 succumbed, making a mortality rate of 34.2 per cent., which was the average rate for the ten years preceding the use of antitoxine.

The only bad effect that has been produced by this remedy is urticaria.

The examination of the blood of patients treated with antitoxine by Billings showed little diminution of the red cells as compared with those not so treated. "Six patients who were anæmic when admitted showed a steady rise in the red cells as the disease (treated with antitoxine) progressed." He also found in cases so treated that the decrease of hæmoglobin was less marked.

203 East Capitol Street.

The Richmond Academy of Medicine and Surgery.—At the last regular meeting, on Tuesday, June 14th, Dr. John Dunn was to open a discussion on Some of the Ocular Manifestations of Uricacidæmia.

THE CLINICAL RELATIONS OF THE LOEFFLER BACILLUS.*

By F. L. WACHENHEIM, M. D.

Previous to the discovery of the Loeffler bacillus, two views of the nature of diphtheria were current, those of Bretonneau and Virchow.

Bretonneau claimed a common origin for croup and malignant angina, declaring them both due to the same infecting agent, which caused a superficial fibrinous deposit to form on the affected mucous membranes. Any necrotic changes he attributed to secondary influences, and he rigidly excluded scarlatinal angina from genuine diphtheria. He based this distinction on the firm adhesion of the scarlatinal membrane, its limitation to the fauces and absence from the larynx, and its failure to confer immunity against true diphtheria.

Virchow, arguing from the histological standpoint, defined "diphtheritic inflammation" as one attended with the deposit of a fibrinous pseudo-membrane and necrosis of the underlying tissues. Fibrinous exudation without necrosis he termed "croupous inflammation." He spoke of diphtheria caused by chemical agents, diphtheritic colitis in dysentery, and wound diphtheria. Wagner showed that croupous and diphtheritic inflammations differed merely in degree, and might be dependent on the same ætiological factor.

These two conflicting usages of the terms diphtheria and diphtheritic had obscured medical literature for a generation, when Loeffler's discovery appeared on the scene to add a third element of confusion. A brief morphological outline of tonsillar inflammations, as they present themselves clinically, will perhaps not be amiss at this point.

First, we have that form of tonsillitis which presents merely hyperæmia and increased succulence of the tissues without the formation of any visible deposit, so-called catarrhal angina.

In the second form we see white dots, about the size of a pinhead and occupying the lacunæ of the tonsil, in addition to the inflammatory reaction before noted.

The third form differs from the preceding in that the spots are larger and spread over the surface of the gland, dipping down into the lacunæ, but frequently not starting out from them. The spots show a tendency to coalesce, forming a transition to the next type. These second and third forms are often thrown together under the head of follicular angina, but their clinical history justifies a distinction between punctate and disseminated croupous tonsillitis.

When the small patches of the third form fuse together, we obtain the fourth, the croupous angina of Virchow. The fifth type is the diphtheritic angina of Virchow, from which so-called gangrenous tonsillitis differs only in the depth of the necrotic process. I exclude as irrelevant to the subject of this paper chronic tonsillitis, also known as tonsillar hypertrophy, and suppurative tonsillitis, which is really a peritonsillitis.

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* Read before the Metropolitan Medical Society, February 23, 1898.

According to the old standards, the essential feature of diphtheria is the false membrane, either loosely attached to the mucosa, "croupous," or firmly adherent, with more or less necrosis of the underlying tissues. This membrane may be of any conceivable consistence; its color may be white, grayish, yellowish, or brownish. Cervical adenopathy may be marked or scarcely noticeable. Subjective symptoms may vary within the widest possible limits, and the temperature between 99° and 106° F. Thus, the membrane is the one characteristic feature; and, after excluding local traumatisms, it determined the diagnosis of diphtheria.

Loeffler (1) found his bacillus almost entirely restricted to the outer part of the false membrane; the necrotic processes he invariably found associated with other bacteria. He occasionally missed the bacillus in clinically typical diphtheria, regularly in scarlatinal membranes. Later observers obtained similar results. Escherich (2), Kossel (3), and Baginsky (4) found Loeffler's bacillus in from ninety-two to ninety-seven per cent. of primary diphtherias. In the absence of this micro-organism, various cocci, chiefly the *Streptococcus pyogenes* and the so-called pseudo-diphtheria bacillus, appeared.

A few words concerning this pseudo-diphtheria bacillus will here be in order. Two views seem about equally represented: the one, that it is an attenuated Loeffler bacillus; the other, that it is a distinct germ. Roux and Yersin (5) and C. Fraenkel (6) accept the former; Escherich, Loeffler (7), and Park (8) the latter. Spronck (9) claims to distinguish between them by the serum test, but C. Fraenkel (10) disposes of this method as fallacious. Max Neisser's (10*a*) recently announced staining reactions seem likely to meet the same fate. Koplik (11) has demonstrated the "pseudo" bacillus replacing the Loeffler bacillus in two cases. A thorough survey of the literature will persuade the impartial clinician that the matter is still decidedly *sub judice*.

Proceeding to the streptococcus cases, we must remember that in some instances the Loeffler bacillus may escape observation by appearing late or disappearing early. There seems to be little doubt of the infectiousness of streptococcus throat affections. Park and Beebe (8) concede a mortality of four per cent. from laryngeal and pneumonic complications, and we must attribute to the streptococcus such secondary lesions as otitis media and suppurative adenitis. Bernheim (12) and Roux and Yersin have proved the high virulence of a mixed Loeffler bacillus and streptococcus infection. It seems to me, therefore, a grave error to regard these cases as of minor importance.

The older observers had noticed that true diphtheria in its early stages often presents the picture of a follicular angina. The frequency of lacunar angina in epidemics of diphtheria had also attracted attention, and Jacobi (13) remarked the danger of these cases to the community at large. Careful bacteriological study of this affection led to some startling results. Koplik (11), one of the few to distinguish clinically between punctate and disseminated croupous angina, found Loeffler bacilli in many cases of the former and most of the latter. Park (8) observes that the bacillus is infrequent in lacunar tonsillitis, but refers to the import of its presence.

The next step was to show the bacillus in the normal fauces. It appears to be especially frequent in the throats of nurses and others who have been exposed to infection. Of three hundred and thirty persons who gave no history of exposure, Park found Loeffler bacilli in twenty-four cases, eight times fully virulent. The interpretation of this fact is a matter of grave difficulty, and I shall presently recur to it.

Lastly, the Loeffler bacillus has been shown by several authorities to be the cause of fibrinous rhinitis, and this rather mild affection has thus been closely linked to the familiar and justly dreaded diphtheria of the nasopharynx. The passing of the former into the latter has been seen in a number of instances.

A most interesting subject is the persistence of the bacillus in the throats of convalescents; it must influence greatly the matter of isolation. Escherich (2) found fully virulent bacilli after five weeks; Park, after seven weeks; Belfonti (14), after seven months. Tobiesen (15), however, shows that they rarely, if ever, transmit the disease. It is notable that the germ is most persistent in persons affected with chronic inflammation of the air-passages.

I shall now turn to a small series of cases which I have been enabled to collect during the past year, and review them with special reference to their clinical and bacteriological aspect.

Sixteen cases presented typical membranes: in ten of these the Loeffler bacillus was demonstrated. The following are of some interest:

Case I.—Minnie K., aged seven years, presented a characteristic membrane on each tonsil, but Loeffler bacilli were absent.

Case II.—Florence H., aged six years, showed a diffuse scarlatinal rash, intense hyperæmia of the fauces, and a thick yellowish membrane on the right tonsil; a culture demonstrated the absence of Loeffler bacilli.

Case III.—Sarah A., aged forty years, presented on the right tonsil a grayish necrotic deposit, firmly adherent; temperature, 103°; slight adenopathy; bacilli absent. Complete recovery in four days.

Case IV.—Moses R., aged two years, presented a thick necrotic patch on right tonsil, surrounded by a reddened area; other tonsil unaffected; slight pharyngitis; moderate adenopathy on diseased side; temperature, 101°. Loeffler bacilli were absent.

Case V.—Amelia S., aged five years and six months, presented an appearance on both tonsils very similar to preceding case. Loeffler bacilli were likewise absent.

Concerning Case I, I would remark that subsequent cultures might have furnished the bacillus had not the patient escaped further observation. Case II followed the rule of scarlatinal cases. Cases III, IV, and V are typical ones of necrotic tonsillitis; the Loeffler bacillus is regularly absent. Certain persons are peculiarly liable to frequent recurrences of this affection, which, moreover, often appears in epidemic form.

CASE VI.—Albert F., aged seven months, presented two small gray patches on right tonsil; temperature, 102°; no adenopathy; culture showed absence of Loeffler bacilli. Four days later the membrane was still present, but febrile symptoms had almost disappeared.

CASE VII.—Annie E., aged eight years, twenty-four hours after onset presented a thin gray deposit on each tonsil; no adenopathy; temperature, 100°; Loeffler bacilli present. Two days later the child seemed almost well; the membrane had almost disappeared. On the fifth day a thick yellow membrane appeared on the tonsils; the temperature rose to 104°, and there was a slight glandular swelling; Loeffler bacilli were still present. No antitoxine had been used; the patient finally recovered. The above is of interest as a genuine relapsing case. I would request attention to the changes in the membrane, temperature, and glands. Henoch (16) gives a striking case, with two relapses, lasting two months.

Seven cases displayed disseminated spots, not limited strictly to the lacunæ. Of these, four showed Loeffler bacilli. I need not again point to the similar results obtained by other observers, nor to the fact that such cases are most safely considered true diphtheria unless proved non-bacillary in origin. The excellent prognosis, if the disease be arrested at this stage, should not blind us to the danger to the community at large.

CASE VIII.—Amelia J., aged four years, presented a few very small patches on both tonsils; Loeffler bacilli were absent; there had been an epidemic of tonsillitis in the family. The case illustrates the probable contagiousness of what was most likely simple lacunar tonsillitis. I do not, however, consider the case sufficiently clear to be advanced as an argument.

The following case does not admit of classification:

CASE IX.—Bernard E., aged seven years, presented a slight diffuse reddening of the fauces, but no spots or membrane; also general malaise of six hours' duration, and a temperature of 101°; two other children in the family were at the time suffering from typical diphtheria. Loeffler bacilli were found in his throat, and on the following day he developed a true membrane, going through the regular course of the disease.

Of fourteen cases of lacunar and catarrhal angina, only one presented Loeffler bacilli. I regret that this case escaped further observation, to determine whether a membrane developed, or the presence of the bacillus was merely accidental.

I say accidental, because I see no reason to assume, from the mere finding of the characteristic germ, that a simple lacunar angina is a diphtheria in any clinical sense. The absolutely excellent prognosis as to recovery, the freedom from paralytic sequelæ, are alone almost sufficient evidence. If, moreover, the bacillus is to determine our diagnosis, how about normal individuals who happen to be carrying it in their fauces? Is it rational to isolate a person who has had diphtheria, for seven months, on purely bacteriological grounds?

The only really scientific test, that of virulence, can not, from lack of time, be made by any health office in all cases presented to it. Besides, as the inoculated animal dies usually in thirty-six to forty-eight hours, the practitioner can not properly postpone isolation and sero-therapy pending the report of the laboratory expert.

We must, therefore, for practical purposes, be guided by the ocular demonstration alone of the specific microorganism. This observation being so often fallacious in both directions, it seems rather absurd to make all our procedure depend on so unreliable a factor. Without for one moment suggesting that the Loeffler bacillus may not be the specific germ of diphtheria, I wish to refer only to the uncertainties its presence or absence involves.

The clinical aspect of the Loeffler bacillus may be easily narrowed down to two points: the only urgent questions are those of isolation and therapeutics, and just here we are apt to be betrayed into serious errors if we trust solely and implicitly in the evidence of the culture tube.

I have noted the dangers involved in neglecting streptococcus diphtheria, referring particularly to its infectiousness and prognosis. While it is clearly irrational to isolate every person who happens to be carrying Loeffler bacilli in his fauces, it is, nevertheless, well, in the present state of our knowledge, to isolate all cases of acute throat disease at once without awaiting the result of a bacteriological investigation.

Concerning therapeutic indications, there is happily no question of the propriety of local antisepsis in every membranous throat lesion, and most authorities agree in extending this treatment to every form of angina. Similar applications seem indicated for persons attending these cases; but this plan has not gained much favor, though it is the inevitable corollary to the proposition of those who make the diagnosis depend on the bacillus. Evidently, these gentlemen do not care to go to extremes in carrying out their ideas.

As to sero-therapy, the advantage of its immediate employment has been shown conclusively; and, as twenty-four to forty-eight hours would be wasted by waiting for the bacteriological report, the proper course of the practitioner is clearly to administer antitoxine at once in every case that presents a membranous deposit in the fauces. In strictly lacunar tonsillitis it will probably not be called for in any case, even if a culture subsequently shows the Loeffler bacillus; the patient by that time is either convalescent or has developed a genuine membrane, in the latter event falling into the first group mentioned, and requiring treatment accordingly. As to prophylactic injections, we may use the clinical guides as just stated, but, in case the bacillus is present, there can be no harm in employing the serum, though it be done on a scientifically insufficient basis.

Thus, our diagnostic procedure is practically restricted almost to that of the great clinician Bretonneau. Our bacteriological results are at best only confirmatory, and we are required in practice to manage our cases from the outset from a purely clinical standpoint. In the realm of medicine there is at present a tendency to supplant bedside observation by laboratory research. In this paper I have sought to impress the view that in diphtheria, as in other morbid states, our bacteriological studies should subserve our clinical methods, not control them.

In conclusion, I beg to express my acknowledgments to Dr. Richard Stein for clinical material and kind co-operation.

Literature.

1. Loeffler. *Mittheilungen aus dem kais. Gesundheitsamte*, 1884, ii.
2. Escherich. *Epidemische Diphtherie.*
3. Kossel. *Charité-Annalen*, 1893–'94.
4. Baginsky. *Serumtherapie.*
5. Roux and Yersin. *Annales de l'Institut Pasteur*, 1888, 1890.
6. C. Fraenkel. *Berliner klinische Wochenschrift*, 1893, No. 11.
7. Loeffler. *Berliner klinische Wochenschrift*, 1890, No. 39.
8. Park. *Medical Record*, July 30, August 6, 1892; February 11, 1893.—Park and Beebe. *Medical Record*, September 29, 1894.
9. Spronck. *Deutsche medicinische Wochenschrift*, 1895, No. 36.
10. C. Fraenkel. *Hygienische Rundschau*, vi.

10*a*. M. Neisser. *Zeitschrift f. Hyg. u. Infectionskrankheiten*, xxiv.

11. Koplik. *Archives of Pædiatrics*, 1892.—*New York Medical Journal*, March 10, 1894.
12. Bernheim. *Zeitsch. f. Hyg. u. Inf.*, xviii.
13. Jacobi. *New York Medical Journal*, September 27, 1884.
14. Belfonti. *Riforma medica*, March 23, 1894.
15. Tobiesen. *Centralbl. f. Bact.*, xii.
16. Henoch. *Kinderheilkunde.*

173 East Seventieth Street.

Therapeutical Notes.

Nitroglycerin in Spasmodic Croup.—Dr. G. G. Marshall (*Atlantic Medical Weekly*, May 28th) has found in nitroglycerin an ideal remedy for spasmodic croup where steam inhalations and emetics fail, or where they depress too much to bear repetition. He recommends it to be given in small doses frequently repeated. To children from five to ten months old he gives from one ten-hundredth to one six-hundredth of a grain, repeated in from five to ten minutes if no effect is noticeable. Usually in ten minutes there is marked relief in the dyspnœa and general appearance of the child. By repeating these small doses from every fifteen minutes to once in one to three hours, the laryngeal spasms are controlled. Sometimes it is not necessary to repeat it more than once or twice; at other times the remedy has to be continued at more or less frequent intervals for two or three days.

The Treatment of Syphilis.—Dr. Murray (*Lancet*, March 5th; *American Medico-Surgical Bulletin*, May 25th) protests against the administration of repeated courses of mercury or the iodides with the idea that a steady course of either or both will in time effect a cure, if a cure is to be obtained by medicine. He says that each time the disease recedes under specific treatment it may reappear on the cessation of the treatment, thus calling for continued repetition. Should the symptoms stand still, or get worse, the treatment should be cut off, and five or six grains of quinine three times a day should be given with doses of potassium iodide up to fifteen grains. This method will often "act like a charm."

Ichthyol for Insect Bites.—Pure ichthyol is recommended by Ottinger (*Pædiatrics*, June 1st) to be applied with a camel's-hair brush, or in the form of a ten-per cent. gutta-percha plaster, in insect bites.

Treatment of Keratitis and Chronic Conjunctivitis.—Dr. Sassaparel, a Russian military surgeon (*Riforma medica*, May 12th), has found it useful in phlyctenular keratitis, corneal ulcer, chronic conjunctivitis and episcleritis to apply light massage to the affected part, using the following ointment:

℞	Solution of corrosive sublimate, five per cent.	1 drop;
	Hydrochloride of cocaine	1½ grain;
	Vaseline	60 grains.

A small quantity of this ointment is placed in the inferior conjunctival *cul-de-sac* and massage applied for one or two minutes across the closed eyelids. This method is said to effect a cure in about ten days.

Gauze Packing for Suppurating Ears.—Dr. Alice Ewing (*Laryngoscope*, June) recommends iodoform gauze as a packing in suppurating ears to afford drainage, in place of the douche. She says that one of her instructors in Vienna told her: "If you forget everything else that you have heard from me, remember never to douche the traumatic-ruptured drum membrane; if you do, it is sure to suppurate; if you let it alone it is sure to heal. The infection is in the external auditory canal, and blood serum is in abundance from the contused tissue, but if left dry it soon desiccates."

Bichloride or borated gauze answers better in some cases. Dr. Ewing records two cases, and in recapitulation says: (1) The gauze packing is more correct in principle and more satisfactory in practice than anything in use in the treatment of chronic suppurating otitis media. (2) Incurable cases can be kept more comfortable with this than anything else. It saves the time of the specialist. (3) It is suitable and safe for home treatment. It has no contraindications.

Gastralgia.—The following prescription for gastralgia appears in the *Medical Review of Reviews* for May 25th:

℞	Codeinæ phosphatis	gr. ¼;
	Bismuthi subnitratis	gr. v;
	Sacchari lactis	gr. iij.

M. Sig.: This as a dose every two hours.—*Ewald.*

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THE DENVER MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

THE meeting was large beyond most persons' expectations; it was also exceptionally representative, for those in attendance were for the most part men of mature age, without the large element of recent graduates usually encountered. The social accessories were enjoyable and to a great extent novel. Enthusiasm and good-fellowship prevailed to a degree unsurpassed, so far as we know, at any of the association's previous meetings. It is safe to say that the fair city of Denver has proved its capability of taking good care of a large number of visitors; it has also shown its willingness to do so.

It was thought by a number of persons that at this meeting some way would be found to reconcile the differences existing between the association and the Medical Society of the State of New York. We lately expressed some reserve on this point, and the result justifies our lack of faith. Nothing has been done to restore the former relations of the two organizations. Nevertheless, a way was pointed out by the president, in his address, whereby individual members of the profession might join the association without regard to their State affiliations. It would apply, however, only to those who might be willing to subscribe to the association's code of ethics. Still, it would doubtless let in a great many desirable men, and it seems probable that some such plan will be adopted sooner or later.

One of the most important achievements of the meeting was the passage of a measure barring from membership, after a certain date, all physicians who are members of the teaching staff of any medical school that does not conform to the requirements of the Association of American Medical Colleges. The result of this will be to force all the medical schools of the country to adopt the four years' course, on pain of being unrepresented in the association. It has taken many years to accomplish the enactment of such a measure, and the association is to be congratulated on its adoption at last.

The scientific work done in the section meetings was quite up to the standard, and the meeting may be said to have been eminently satisfactory from this point of view.

AN AGGRESSIVE POLICY FOR MEDICAL SCIENCE.

HENCEFORTH modern medicine must leave its beaten track and become not only progressive but aggressive. Such is the substance of Surgeon-General Sternberg's presidential address to the American Medical Association at Denver. We have too long put up with the assaults of the charlatan and the quack, and allowed them to have the field all to themselves without contradiction or molestation. Their absurd and misleading statements, their false reasoning, their deliberate falsehoods, have been allowed to be published broadcast without protest on our part, forgetful of the two old adages, "Throw plenty of mud and some is sure to stick," and "Silence gives consent." Secure in our own honesty of purpose as a profession, and satisfied of the substantial progress being made in scientific medicine, and of the utter feebleness of the baseless platforms of various empirical schools, we have gone on our way forgetful of the fact that the mind of the average man is not trained to the care and accuracy of observation, and to the scientific value of evidence, which are necessary to distinguish clearly between the true and the false. Surgeon-General Sternberg affirms that the time has now come when systematic and well-directed efforts should be made by responsible and competent authorities to enlighten the public, through the medium of leaflets, newspaper, and magazine articles, on the true status of scientific progress in the medicine of to-day. Hitherto the irresponsible newspaper scribe has been allowed to have it all his own way in the newspaper publication of comments and opinions upon the various discoveries that experimental science is pouring in upon us nowadays; and his way is chiefly characterized by an insatiable thirst for sensationalism, and a supreme contempt for anything like an effort at accuracy. And the public, which, in this country especially, is largely newspaper-made so far as its opinions are concerned, bolts all their mass of heterogeneous crude material, while we have looked on and wondered, but have taken no active steps to save it from the natural result—viz., mental dyspepsia and consequent self-intoxication.

Our apathy has, no doubt, been largely due to the fear that any means of utilizing the newspaper press and the magazines for popular instruction would be useless unless signed by names to carry weight to the public mind; while, if so signed, they might appear to come under the ban of unprofessional conduct as aiming more at the glorification of the writer than the benefit of the public.

There is, however, as it seems to us, a method by which the desired end might be attained in such a way that the greatest names in medicine should be enlisted in the cause to carry weight, without any possible suspicion on the part of even their bitterest enemies being able to attach to them. It is well known that quite a large proportion of matter supplied to the daily press comes from various "syndicates," of which the Associated Press is a well-known example. These institutions supply news items collected from all parts to all the newspapers on their subscription list. Others again deal with stories, and by this cooperative means enable newspapers in different parts of the country to present their readers with novels, etc., by well-known authors, whom the papers could not individually approach on the question of fees. Now, why should not the suggested society for the distribution of sound popular medical literature, proposed by "a distinguished surgeon," and indorsed in principle by the surgeon general, take the form of a medical press syndicate, having a strong directorate of names that would command respect both in the professional and the lay world, which could, by dealing directly with the press, undertake to compensate its writers if necessary for their work, and that at a rate which would make it possible for good men to prepare the articles on subjects with which they were individually familiar? Such a society would need a permanent staff. All medical men are not facile with their pens, and many of those who have most that is worth saying are by no means the most competent people to say it positively and effectively. A few writers, therefore, on their permanent staff at headquarters would enable them to approach many authorities for data and notes, who otherwise would fight shy of undertaking the task of preparing a popular article. There is no reason why this scheme should not be not only self-supporting, but fully remunerative to all concerned. The meagre remuneration which the medical journals can, as a rule, afford to pay, owing to the limited number of their readers, to the writers who do the routine work, medical reports, abstracts from other journals, reviews, etc., as distinguished from original contributions, which are, of course, never paid for, would be replaced by the solid fees received by such men as Rudyard Kipling, Stephen Crane, etc., from the syndicates for their work; and this should place at the disposal of the syndicate the services of men of mark and high professional standing, for the articles on their respective subjects. If it were not thought advisable on the ethical grounds at present obtaining to publish the names of the actual contributors, a strong editorial board of men whose names are "familiar in our mouths as household words," would be ample guarantee to the newspaper world and the public of the value of any article emanating from the syndicate.

This plan is merely a suggestion, but it is thrown out for the consideration, at what it is worth, of those "men of light and leading" in the profession who are at last becoming alive to the necessity of doing something in this direction. In a recent editorial in this journal On the Ethics of Adolescence, when referring to the desirability of parental teaching on the sex problem to children, we made use of the following words: "Rest assured, parents, that if you do not yourselves, or through their teachers, give this information to your children, so soon as the drift of their questionings shows that they are naturally prompted to seek it, in a way that is 'scientific, true, and clean,' they will find innumerable others, 'in back alleys, on the way to school, or in the servants' room,' who will be only too ready to afford it to them in a fashion that is 'morbid, false, and dirty.'"

The public is in its childhood in regard to the drift, achievements, status, and aims of modern medical science, and the medical profession at large stands to it *in loco parentis*. We may therefore say that if the profession does not do its duty and impart the necessary instruction, so far as it can be popularly imparted, to the public, in a manner that is scientific, true, and saving, the latter will not allow its natural questioning powers to be repulsed, but will continue to drink in with avidity the presentment of it by charlatans of every kind, in a manner that is unscientific, false, and dangerous.

MINOR PARAGRAPHS.

A UNIQUE CASE OF APPENDICITIS.

Dr. John Young Brown (*St. Louis Medical Gazette*, vol. i, No. 1, June) records the following case of appendicitis: On examination he found the abdomen slightly tympanitic, and there was considerable tenderness over the seat of the appendix, but no mass could be made out. Rectal examination was exquisitely painful and there was considerable bogginess on the right side. The pulse was 80, and the temperature 98.8° F. From the commencement of the attack until the patient went on the table, the pulse had never risen above 82, nor the temperature above 99.8° F. There was, however, persistent nausea, and the patient had all the appearance of being a very sick man. On opening the abdomen about a quart of stinking serum was found free in the pelvis. This was sponged out, and there was found presenting in the wound a loop of ileum tightly bound down by a bandlike adhesion. The presenting ileum was dark in color, and appeared at first likely to necessitate a resection. However, after the constriction was relieved, the circulation gradually returned. From the adhesions present about the cæcum, it was conclusive that the patient had had frequent attacks of appendical trouble. The cæcum was tightly bound down by adhesion, and it was with some difficulty that the appendix was found; it was densely adherent to the cæcum, strictured, and gangrenous at tip, with a perforation about the size of a pea. The patient reacted nicely after the operation, the gauze was removed in thirty-six hours, and his recovery was uneventful. As Dr. Brown points out, the above case presents many interesting points, and forms an instructive commentary on the views of those physicians, to which we referred in a minor paragraph in our issue of May 21st, who consider that clinical conditions can show which cases should demand instant operation, and which may be safely left to "well-conducted medical treatment." This case reported by Dr. Brown would probably, under such a theory, have been relegated to the latter class with a fatal result, as would also one which he reports having seen in consultation, where symptoms almost identical with the foregoing were presented, and yet on opening the abdomen an intussusception was found which necessitated the resection of ten inches of gangrenous ileum. Here was a man with a temperature and pulse almost normal, with every clinical symptom pointing to a mild attack of appendicitis, and yet, on opening his abdomen, conditions were found which conclusively proved that had operative interference been delayed twenty-four hours, he would have been beyond the reach of surgery to save.

THE COMPOUND MICROSCOPE AS AN ELEMENT IN THE ADVANCE OF MEDICINE.

NOBODY now questions the greatness of the part played by the microscope in effecting what has thus far been accomplished in lifting medicine from the domain of dogmatism and setting it upon the sure road of scientific exactness. The story of the microscope has often been told from this point of view, but seldom if ever, we venture to say, more tersely or more convincingly than by Surgeon-General Sternberg, in his presidential address before the recent annual meeting of the American Medical Association, an abstract of which we give elsewhere in this number of the *Journal*.

SNORING AS A CALAMITY.

THE police magistrate of Westminster, England (*Gazette médicale de Paris*, May 21st), had recently to decide whether the snoring of a young woman could be held to be the committal of a nuisance, and a menace to health. One evening a Miss Jane Ship, a domestic servant, at the time out of employment, rented a room in a hotel in Queen's Gate kept by a Mr. Gaskell. The young girl was well dressed, of respectable address, and no difficulty was made in admitting her. She paid a week's rent in advance, settled for her supper, and finally went to her room. She had hardly retired for half an hour, when the hotel-keeper, struck with horror, heard resounding through the house a violent and continued noise that he compared before the court to that of a freight train passing over an iron bridge. The entire house was aroused. The frightened lodgers rushed half clad from their rooms calling for help, while those who kept their heads at once set about getting their baggage together. The hotel-keeper finally realized that the sound proceeded from the room occupied by Jane Ship and emboldened himself to knock at her door. The young woman, awakened, freely confessed her infirmity and bemoaned her fate with tears. On account of that, she said, she had never been able to keep a place for more than eight days. The hotel-keeper begged her to forthwith seek accommodation elsewhere; but the girl asserted that she had paid for eight days and meant to stay her week out. A policeman who was consulted confirmed her right to do so. At last Gaskell, finding his hotel empty and his livelihood threatened, summoned Jane Ship before the magistrate. The latter was in a quandary. How could he arrive at a decision? Should he call an expert in snoring? Should he pass a night himself at the hotel? He preferred to content himself with the testimony of the witnesses summoned by the hotel-keeper, among whom was a reputable clergyman, who compared the young woman's snoring (somewhat "previously," it must be confessed) to the trump of the last judgment. Finally Jane Ship was bade to seek lodging elsewhere, the hotel-keeper restoring her money. But what became of the poor girl? Surely here was a case for the attention of rhinologists of both classes, those benevolent ones who seek with single heart the pursuit of science and the benefit of humanity, and those who have always an eye to business through "ethical" advertisement. Had she adenoids; occlusion of the nares by deflected sæptum, polypi, swollen turbinates, etc.; defective innervation of the velum palati; enlarged tonsils, and so forth, or a combination of all or any of them? To the benevolent physician, what a pitiable case is here! To the advertiser, what a splendid opportunity for having greatness thrust upon him in the press without appearing to know anything about it, if only the prying reporter is as active in "following up a story" in England as in this country. Between them, surely, the poor girl will find relief.

RESECTION OF THE FALLOPPIAN TUBES AS A PREVENTIVE OF CONCEPTION.

DR. RUHL (*Centralblatt für Gynäkologie*, 1898, No. 8, p. 211; *Gazette hebdomadaire de médecine et de chirurgie*, May 22d) points out the uselessness of the plan of resection of the Falloppian tubes with ligature of the stumps for the prevention of conception, as proposed by Kehrer. Not only does it not prevent conception, but it exposes the female to all the dangers of extra-uterine gestation; for in one case in which he had removed the ovaries and ligated with silk the uterine ends of the two tubes, and for greater security had covered them with peritoneal flaps, he found, on some months later performing a hysterectomy, that the stump of the right tube was not adherent, but communicated by a free opening with the abdominal cavity. In order to destroy the power of conception, therefore, he thinks it better, after the partial resection of the tubes, to debouch the two ends of the uterine portions into the vagina through an incision in its anterior wall. This method he has recently practised, and will report results later. In this country we do not think it will much matter which ultimately proves the better operation for the purpose, for such serious measures as robbing a woman for all time of her natural powers, an irreparable loss, which she may hereafter as bitterly bemoan as at the time she may ardently desire it, will scarcely commend themselves as justifiable. In cases of pelvic deformity or other organic condition which would render delivery impossible, which alone might render the operation justifiable perhaps, the danger of Cæsarean section would be no greater should the woman ever become pregnant, than that of the operation for preventing conception. She should therefore wait to take her risk till it is really demanded.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 11, 1898:

DISEASES.	Week ending June 4.		Week ending June 11.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	11	4	9	5
Scarlet fever	176	24	195	16
Cerebro-spinal meningitis	0	12	0	7
Measles	392	13	339	20
Diphtheria	159	23	170	20
Croup	7	3	8	1
Tuberculosis	154	127	169	136

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague have been received in the office of the supervising surgeon general during the week ending June 11, 1898:

Small-pox—United States.

Hurricane Bayou, Ala	May 28–June 4	1 case.	
Mobile, Ala	May 28–June 4	1 "	
Denny, Miss	May 21–June 4	6 cases.	
Laurel, Miss	May 21–June 4	12 "	
Ocean Springs, Miss	Feb. 20	3 "	
Buffalo, N. Y	May 19	1 case.	
Geneva, N. Y	May 25	1 "	
Buncombe County, N. C	June 8	1 "	
Mecklenburg County, N. C.	January	2 cases.	
New Hanover County, N. C.	January	2 "	
Delphos, Ohio	May 1–June 8	3 "	

Small-pox—Foreign.

Halifax, Canada	May 28–June 4	3 cases.	
Bombay, India	May 3–10		2 deaths.
Calcutta, India	April 23–30		8 "
Madras, India	April 30–May 6		6 "
Messina, Italy	May 14–21		2 "
Odessa, Russia	May 14–21	12 "	1 death.
St. Petersburg, Russia	May 7–14	15 "	2 deaths.
Warsaw, Russia	May 7–14		3 "

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	April 15–29	214 cases,	76 deaths.

Cholera—Foreign.

Bombay, India	May 3–10		2 deaths.
Calcutta, India	April 23–30		2 "
Madras, India	April 30–May 6		1 death.

Plague—Foreign.

Bombay, India	May 3–10		138 deaths.

Meeting of the Texas State Railway Surgeons Association.—The State Railway Surgeons Association will meet at Galveston the second Tuesday in August next and be in session two days, 9th and 10th. Physicians wishing to contribute papers are requested to send the titles thereof to the secretary, Dr. Clay Johnson, Corsicana, Texas, not later than July 15th, in order that a suitable programme may be sent to every railway surgeon in the State. We understand that vigorous efforts are being made to procure free transportation for all railway surgeons for the occasion.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 11th inst., the following papers were to be read: A Case of Cancer successfully treated by Interstitial Injections of Alcohol, by Dr. Frank W. Hilscher; and A Case of a Successful Operation on Subdural Abscess following Middle-ear Disease, by Dr. Robert Barclay.

The American Medical Association.—At the recent annual meeting, held in Denver, Dr. Joseph M. Mathews, of Louisville, was elected president for the ensuing year, and it was voted to hold the next meeting in Columbus.

Medical Society of City Hospital Alumni of St. Louis.—At the last regular meeting, on Thursday evening, the 16th inst., the following papers were to be presented for discussion: A Report of a Case of Hydrophobia, by Dr. Benno Bribach; and A Report on Blood Examinations, by Dr. L. Bremer.

Changes of Address.—Dr. Harrison E. Allen, to 296 Forty-seventh Street, Brooklyn, N. Y.; Dr. George Beers, to New Brighton, Staten Island, N. Y.; Dr. H. L. Gill, to 23 Fourth Avenue, Brooklyn, N. Y.; Dr. Howard J. Wood, to 413 Fifty-fifth Street, Brooklyn, N. Y.

Good Bread needed for Soldiers.—Captain and Assistant Surgeon Raymond, United States army (*Medical News,* June 11th), calls attention to the great need of portable ovens for bread baking. At Camp Tampa Heights, it appears, the men have been accustomed to turn in their flour rations to local civilian bakers, receiving bread in return; but the bread, besides being deficient in quantity, was also of improper quality, being "sodden and heavy, not sufficiently baked."

The Value of Quinine in Malaria.—Dr. J. G. Van Marter, Jr. (*Texas-Courier Record of Medicine* for May), sums up an interesting paper on this subject as follows: 1. As a preventive quinine will not do for those who are compelled to live indefinitely in a severe malarial climate, since in time it acts as a vaso-motor poison.

2. Quinine acts nearly as a specific in all malarial fevers characterized by intermissions or well-marked remissions, but fails in the continued fevers, those with typhoidlike symptoms, those malarias without temperature, and the cachexias and anæmias due to malaria.

3. It is thus proved that quinine is a poison to the plasmodium itself, but is useless against the toxine manufactured by it.

4. Warburg's tincture in the last condition has an action not yet understood on the toxine (or the eliminative system) by which the system is put in condition to benefit by quinine.

5. Quinine should never be used in hæmoglobinuria, or given subsequently to one who has suffered from it, as it is liable to bring about a recurrence of the condition.

6. Only those living in regions of severe malarial diseases can become competent to settle these questions *pro* or *con.*

Forty-ninth Annual Meeting of the American Medical Association.—The meeting at Denver fulfilled all the expectations it had aroused, and every one seems satisfied. Hospitality was lavish, and the attendance registered sixteen hundred. In the president's, Surgeon-General Sternberg's, unavoidable absence, the first vice-president, Dr. Joseph M. Mathews, of Kentucky, filled the chair. The following officers were selected for the ensuing year: President, Joseph McDowell Mathews, of Louisville, Kentucky; first vice-president, W. W. Keen, of Philadelphia, Pennsylvania; second vice-president, J. W. Graham, of Denver, Colorado; third vice-president, H. A. West, of Galveston, Texas; fourth vice-president, J. E. Minney, of Topeka, Kansas; secretary, William B. Atkison, of Philadelphia, Pennsylvania; treasurer, Henry P. Newman, of Chicago, Illinois. Members of the board of trustees, Alonzo Garcelon, of Maine; I. N. Love, of St. Louis, Missouri; H. L. E. Johnson, of Washington, D. C. The next place of meeting was fixed for Columbus, Ohio.

Examination for Assistant Surgeoncies in the United States Marine-Hospital Service.—The supervising surgeon general has issued from his office at the Treasury Department under date of June 3, 1898, the following circular notice:

A board of officers will be convened at Washington, July 6, 1898, for the purpose of examining candidates for admission to the grade of assistant surgeon in the United States Marine-Hospital Service.

Candidates must be between twenty-one and thirty years of age, graduates of a respectable medical college, and must furnish testimonials from responsible persons as to character. The following is the usual order of the examination: 1. Physical. 2. Written. 3. Oral. 4. Clinical. In addition to the physical examination candidates are required to certify that they believe themselves free from any ailment which would disqualify for service in any climate.

The examinations are chiefly in writing, and begin with a short autobiography by the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery, and hygiene. The oral examination includes subjects of preliminary education, history, literature, and natural sciences. The clinical examination is conducted at a hospital, and, when practicable, candidates are required to perform surgical operations on the cadaver.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur. Upon appointment the young officers are, as a rule, first assigned to duty at one of the large marine hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco. After five years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon.

Promotion to the grade of surgeon is made according to seniority, and after due examination as vacancies occur in that grade. Assistant surgeons receive sixteen hundred dollars, passed assistant surgeons two thousand dollars, and surgeons twenty-five hundred dollars a year. When quarters are not provided, commutation at the rate of thirty, forty, or fifty dollars a month, according to grade, is allowed.

All grades above that of assistant surgeon receive longevity pay, ten per centum in addition to the regular salary for every five-years' service, up to forty per centum after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses. For further information, or for invitation to appear before the board of examiners, address the supervising surgeon general.

The Vaginal Bacteria in Relation to Puerperal Sepsis.—Dr. J. Whitridge Williams, of Baltimore (*Philadelphia Medical Journal*, June 11th), presented the results of his work in this direction, based upon the examination of over one hundred cases, together with a *résumé* of the findings of other investigators. These had been very conflicting, and he explained this fact entirely by differences of technique. The reason some of the investigators had reported pathogenic organisms in the vagina was that they had made use of a large speculum, which had carried in with it some of these organisms from the external genitals. About this he felt quite positive, as he had done the same in one series of cases. By using a small scoop and taking the necessary precautions to prevent this source of contamination, he had been led to the following conclusions: 1. As the vagina does not contain pathogenic germs, self-infection with such germs is impossible. 2. If the vagina really did contain streptococci frequently, a vaginal examination would be very dangerous, which it is not. 3. The vagina may occasionally contain bacteria capable of giving rise to mild sapræmia; and 4. Death from puerperal sepsis is due to infection from without.

Insanity cured by Removal of Uterine Appendages.—Dr. E. Hall (*Canadian Practitioner*, April; *Philadelphia Medical Journal*, June 11th) reports a case of a woman aged thirty-five, considered hopelessly insane, in whom removal of the appendages for ovarian cyst with tubal adhesions was followed by restoration to mental health.

The Hypodermic Injection of Quinine.—Professor V. Stoffella, of Vienna (*Gazette hebdomadaire de médecine et de chirurgie*, May 22d), points out that the insolubility of quinine has for a long time prevented its use hypodermically. Some time ago an Italian physician discovered that quinine hydrochloride dissolved easily in association with antipyrine. This fact, which was confirmed by Gessard, was applied by Laveran, who prescribed the following formula for hypodermic injection:

℞	Quinine hydrochloride	45 grains;
	Antipyrine	30 grains;
	Distilled water	1½ drachms.

Professor Santerson, of Stockholm, showed that in reality a new combination was thus formed—viz., quinopyrine—whose toxicity was less than that of quinine. The author has, however, found the association of quinine with antipyrine useless and has employed hydrochloride of quinine alone for some years after the following plan: He puts thirty grains of hydrochloride of quinine, of whose alkaline reaction, and this he deems very important, he has previously satisfied himself, in a test tube containing a hundred and fifty minims of distilled water. The test tube is heated gently, and at a temperature of about 105° F. the solution is complete and is maintained for some time. On cooling, the quinine is precipitated in the form of a whitish mass, which redissolves with heat, or on plunging the test tube into hot water. The injection is quite painless, and besides, as the drug remains soluble at the blood temperature, there is not, as is the case with injections of quinopyrine, the induration at the point of injection. A Pravaz syringe contains under these conditions about three grains of hydrochloride of quinine, which may be given three times a day.

The Treatment of Osteomalacia. — Dr. Bernstein (*Gazette hebdomadaire de médecine et de chirurgie*, May 29th) has tried, without beneficial results, in a case of osteomalacia in a woman forty-six years of age, Senator's treatment by the administration of ovarian extract. This was suggested by Fehling's observations that extirpation of the ovaries often produced amelioration or cure of osteomalacia. In Bernstein's case, phosphorized cod-liver oil effected a speedy cure after ovarian therapy had failed.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 5 to June 10, 1898:*

BRADLEY, ALFRED E., Captain and Assistant Surgeon, is ordered to Camp Alger, Falls Church, Virginia, for duty with Second Army Corps.

CARTER, EDWARD C., Captain and Assistant Surgeon, will proceed to Chattanooga, Tennessee, for the purpose of establishing a general hospital in the Chattanooga Park Hotel, to be known as the Leiter General Hospital, in accordance with such instructions as he may receive from the surgeon general of the army.

CHAMBERLAIN, W. P., Acting Assistant Surgeon, United States army, will proceed from Washington to Fort Monroe, Virginia, and report for duty.

CONDON, A. S., Acting Assistant Surgeon, United States army, will proceed from Ogden, Utah, to Fort Bayard, New Mexico, and report for duty.

CROSBY, WILLIAM D., Captain and Assistant Surgeon, will report to the major general, commanding the Department of the Pacific, for duty with the expedition to the Philippine Islands.

DABNEY, T. S., Acting Assistant Surgeon, United States army. The order assigning him to Tampa, Florida, is revoked, and he is ordered to Jackson Barracks, Louisiana, for duty.

FAUNTLEROY, POWELL C., First Lieutenant and Assistant Surgeon, is ordered to Tampa, Florida, for duty.

FERGUSON, JAMES B., Acting Assistant Surgeon, United States army, is ordered from Olivia, Minnesota, to Fort Yellowstone, Wyoming, for duty.

GLENNAN, JAMES D., Captain and Assistant Surgeon, is relieved from duty with the Sixth United States Cavalry, and ordered to Camp George H. Thomas, Chickamauga Park, Georgia.

GORGAS, WILLIAM C., Captain and Assistant Surgeon, is ordered to duty on the United States hospital ship *Relief.*

HARTSOCK, FREDERICK McG., Acting Assistant Surgeon, United States army, is ordered to the United States hospital ship *Relief.*

KEEFER, FRANK R., Captain and Assistant Surgeon, will report to the general commanding the Department of the Pacific for duty with the expedition to the Philippine Islands.

KENDALL, WILLIAM P., Captain and Assistant Surgeon, is relieved from duty with the Ninth United States Cavalry, and will proceed to Camp George H. Thomas, Chickamauga Park, Georgia.

KIEFFER, CHARLES F., Captain and Assistant Surgeon, is ordered to Tampa, Florida, for duty.

KULP, JOHN S., Captain and Assistant Surgeon, is relieved from duty in the Department of the Columbia and ordered to report in person to the surgeon general of the army for further orders.

MARSHALL, THOMAS R., Acting Assistant Surgeon, United States army, will proceed from Richmond, Virginia, to Tampa, Florida, and report for duty with the troops in the field.

McCALL, JAMES H., Acting Assistant Surgeon, United States army, will proceed from Huntington, Tennessee, to Fort McPherson, Georgia, and report for duty in the general hospital at that place.

MEARNS, EDGAR A., Captain and Assistant Surgeon, is ordered to Camp George H. Thomas, Chickamauga Park, Georgia.

NEWGARDEN, GEORGE J., Captain and Assistant Surgeon, having reported in person to the surgeon general of the army, is ordered to Tampa, Florida, for duty with the cavalry division.

NORTON, RUPERT, Acting Assistant Surgeon, United States army, is ordered to Fort McPherson, Georgia, for duty in the general hospital at that place.

PENROSE, GEORGE H., Acting Assistant Surgeon, United States army, will proceed from Fort Douglas, Utah, to San Francisco, and report for duty with the Utah Batteries for the expedition to the Philippine Islands.

POEY, EDWARDS C., Acting Assistant Surgeon, United States army, is ordered to Tampa, Florida, for duty.

RAFFERTY, OGDEN, Captain and Assistant Surgeon, is ordered to Key West, Florida, for duty in the general hospital at that place.

RAYMOND, HENRY I., Captain and Assistant Surgeon, is relieved from duty with the Thirteenth United States Infantry and ordered to Camp George H. Thomas, Chickamauga Park, Georgia.

REYNOLDS, FREDERICK P., Captain and Assistant Surgeon, having reported in person to the surgeon general of the army, is ordered to Tampa, Florida, for duty with the cavalry division.

SHANNON, J. R., Acting Assistant Surgeon, United States army, is ordered to Tampa, Florida, for duty.

SCHREINER, EDWARD, Acting Assistant Surgeon, United States army, is ordered to Fort McPherson, Georgia, for duty in the general hospital.

STEPHENSON, WILLIAM, Captain and Assistant Surgeon, is relieved from duty with the Fourth United States Infantry and ordered to Camp George H. Thomas, Chickamauga Park, Georgia, for duty with the First Army Corps.

STILES, HENRY R., Captain and Assistant Surgeon, is ordered to Tampa, Florida, for duty with the Fifth Army Corps.

STRAUB, PAUL F., Captain and Assistant Surgeon, will report to the general commanding the Department of the Pacific for duty with the expedition to the Philippine Islands.

STRONG, RICHARD P., Acting Assistant Surgeon, United States army, is ordered to Tampa, Florida, for duty.

WETHERILL, HENRY E., Acting Assistant Surgeon, United States army, is ordered to Tampa, Florida, for duty.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned Officers of the United States Marine-Hospital Service for the Fourteen Days ending June 9, 1898:*

STEWART, W. J. S., Passed Assistant Surgeon. Upon being relieved by Assistant Surgeon John McMullen, to report at Washington, D. C., for duty. June 6, 1898.

NORMAN, SEATON, Assistant Surgeon. Granted leave of absence for two days. May 27, 1898.

McMULLEN, JOHN, Assistant Surgeon. To proceed to Vineyard Haven, Mass., and assume command of service. June 6, 1898.

Boards Convened.

Board convened to meet at United States Marine Hospital, Chelsea, Mass., at 4 o'clock P. M., June 1, 1898, for physical examination of officer of the Revenue-Cutter Service. Detail for the board: Assistant Surgeon H. W. WICKES, chairman; Assistant Surgeon L. L. LUMSDEN, recorder.

Board convened to meet at Washington, D. C., at 10 o'clock A. M., July 6, 1898, for examination of officers for promotion and candidates for appointment as assistant surgeon. Detail for the board: Surgeon George Purviance, chairman; Surgeon John Godfrey; Surgeon D. A. Carmichael, recorder.

Society Meetings for the Coming Week:

Monday, *June 20th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society.

Tuesday, *June 21st:* Medical Society of New Jersey (first day—Asbury Park); New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburgh, N. Y., Medical Association; Syracuse, N. Y., Academy of Medicine; Medical Society of the County of Kings, N. Y.; Baltimore Academy of Medicine.

Wednesday, *June 22d:* Medical Society of New Jersey (second day); New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Philadelphia County Medical Society.

Thursday, *June 23d:* New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Society for Neurology; Pathological Society of Philadelphia.

Friday, *June 24th:* New York Society of German Physicians; Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *June 25th:* New York Medical and Surgical Society (private).

Births, Marriages, and Deaths.

Married.

Barton—Coolidge.—In Boston, on Tuesday, June 14th, Mr. Frederick Otis Barton and Miss Mary Lowell Coolidge, daughter of Dr. Algernon Coolidge.

Ferguson — Maupin.—In Mobile, Alabama, on Wednesday, June 8th, Dr. Gowan Ferguson, of Great Falls, Montana, and Miss Willie Maupin.

Harper—Le Boeuf.—In New Orleans, on Thursday, June 9th, Mr. William Y. Harper and Miss Lucie Le Boeuf, daughter of Dr. Louis G. Le Boeuf.

McBarron—Adams.—In New York, on Thursday, June 9th, Dr. John Duff McBarron and Miss Minnie Estelle Adams.

Moak — Wilkes.—In Columbia, Tennessee, on Tuesday, June 7th, Dr. Charles Henry Moak, of New York, and Miss Katherine A. Wilkes, daughter of Dr. James H. Wilkes.

Severance—Reum.—In Milwaukee, on Wednesday, June 8th, Dr. Omro E. Severance and Miss Clara Reum.

Watson—Sanborn.—In Brookline, Massachusetts, Dr. David S. Watson, of Polo, Illinois, and Miss Julia A. Sanborn.

Died.

Gilbert.—In Saratoga, N. Y., on Saturday, June 11th, Dr. Porteus C. Gilbert in the fifty-eighth year of his age.

Goodman.—In Brooklyn, on Monday, June 13th, Emma Zilpha Goodman, wife of Dr. Samuel Goodman, aged fifty-eight years.

Legare.—In Summerton, South Carolina, on Monday, May 30th, Dr. Thomas Legare.

Whitney.—In East Marion, N. Y., on Saturday, June 11th, Dr. Darling B. Whitney, in the eighty-ninth year of his age.

Obituaries.

JOHN BLAIR GIBBS, M. D., ACTING ASSISTANT-SURGEON, UNITED STATES NAVY.

In the early morning of the 12th inst., Dr. John Blair Gibbs, acting assistant surgeon in the United States Navy, gave his life in the service of his country, during the night attack by the Spaniards on the United States marines at Guantanamo, Cuba. We have recently had occasion to call repeated attention to the devotion to duty displayed by members of our profession, not only of this, but of other countries, and the fact that Surgeon Gibbs was the first commissioned officer of the United States to fall on Cuban soil is only one more melancholy enforcement of the views we have of late so often and so forcibly expressed.

Dr. Gibbs gave up a substantial practice, in which he was associated with Dr. Parker Syms, of 60 West Forty-seventh Street, New York, to enter the naval service of the United States, so soon as his country called for men of all grades and classes to uphold its cause. He came of a soldier family, for his grandfather had taken his share in the foundation of this nation when achieving its freedom, while his father had aided in extending and establishing it, by serving during the Mexican and civil wars.

Applying for a commission in the navy, Dr. Gibbs was speedily nominated, and, presenting himself at the Brooklyn navy yard to undergo the necessary examination, maintained his position by passing with the greatest credit.

He was assigned to the *Panther* but a few weeks ago, and departed full of hope and spirits, with a high sense of devotion to duty, only to fall in the first engagement on land. While many hearts of friends and relatives will be sad, his country and his profession will alike hold him in equal honor.

Dr. Gibbs graduated from Rutgers College in 1878, and subsequently from the University of Pennsylvania in 1881, and the College of Physicians and Surgeons in the following year. After some months at the Bellevue Hospital he went abroad, taking London and Vienna as supplementary schools for the broadening of his professional education. Later he became connected with the Roosevelt Hospital and an instructor in the Post-graduate School, and also on the surgical staff at the Lebanon Hospital. His father, the late Major Gibbs of the Seventh United States Cavalry, fell in the Custer massacre, but Dr. Gibbs leaves behind him a mother who lives at Richmond, Virginia, and a brother, not to mention troops of friends, to mourn his loss; but, let us hope, to be solaced also to some extent in their grief by the glorious manner of his death, and the sympathetic tributes of a profession, a service, and a country, in all of whose behalf he yielded up his life.

Letters to the Editor.

"OSTEOPATHY" AND THE ILLINOIS STATE BOARD OF HEALTH.

Springfield, Illinois, *June 6, 1898.*

To the Editor of the New York Medical Journal:

Sir: A concern in Chicago claiming to teach the alleged science misnamed osteopathy makes the following remarkable statement relative to its so-called courses, in circulars which are sent broadcast over the country:

"Terms of study are so graded and the courses of study so broad and complete that they comply with all the requirements of the Illinois State Medical Board and allow our students two years' credit on a regular medical education. These credits are recognized in any medical college in this country and will be equivalent to two years' work done there."

If by the "Illinois State Medical Board" is meant the Illinois State Board of Health, the assertion made in reference to that body is a lie in the fullest acceptation of the term. It is not true, furthermore, that the "credits" named are recognized in any medical college in this country. On the contrary, it is exceedingly doubtful if a single reputable medical institution will grant any advanced standing whatever to applicants from this and other "colleges" of similar character. Should this, however, be done, it is needless to say that the institution or institutions concerned will receive no further recognition from this board, and it will be remarkably strange if the various State boards of medical examiners throughout the Union will view such irregular proceedings with complacency.

As the circulars are calculated to deceive the unwary, and to cause prospective graduates in medicine to waste two years of time, I will ask you to give this letter a prominent place in your journal, in order that the facts of the case may be widely disseminated.

J. A. Egan, M. D.,
Secretary of the Illinois State Board of Health.

THE INVESTIGATION OF INFANTILE SYPHILIS.

New York, *May 27, 1898.*

To the Editor of the New York Medical Journal:

Sir: The forthcoming meeting of the Royal Society of Public Medicine of the Kingdom of Belgium, which is to take place in July next in Brussels, Belgium, is going to discuss the subject of infantile syphilis, and is making strenuous efforts to obtain as accurate and complete information thereon as possible. The results of this investigation that the society is making will, I believe, be of interest to the medical profession in general, and I should be thankful if some of its members who have devoted much time to this subject would furnish me before June 20, 1898—for transmission to Belgium—with any facts that they possess bearing on the inquiries that are made by the society. The questions are written in French and are signed by Dr. Kuborn, president, and Dr. Maroy, general secretary, and are (when translated) as follows:

INFANTILE SYPHILIS.

a. Do you meet in your practice with syphilitic children, rarely, occasionally, often, or frequently?

b. In what year did you begin your observations on this subject?

c. Have the cases which you have been able to follow up been superficial or advanced to cachexia? Will you kindly state, generally, if you can recollect them, the nature of the lesions?

d. What was the approximate age of the children?

e. What was the result of the disease?

f. Have you been able at times to trace the source of the complaint (*e. g.*, father, mother, nurse, contagion, etc.)?

g. Is syphilis of rare or common occurrence in the locality of your observations?

h. Do you often see children, born of syphilitic women, presenting no apparent characteristic lesion during the early years of their life?

i. If you have made any special observations on the placenta of women either syphilitic, or who have been cured thereof, would you kindly communicate them?

Very respectfully yours,
John T. Nagle, M. D.,
Membre correspondant étrangeur de la Société royale de médecine publique de Belgique, etc.

Book Notices.

Operative Gynæcology. By Howard A. Kelly, A. B., M. D., Professor of Gynæcology and Obstetrics in the Johns Hopkins University, and Gynæcologist and Obstetrician to the Johns Hopkins Hospital, Baltimore, etc. With Twenty-four Plates and over Five Hundred and Fifty Original Illustrations. Vol. I. New York: D. Appleton and Company, 1898. Pp. xvi–563. (Sold by subscription.)

This work marks an era in American medical publications in general, and in gynæcological text-books in particular. It will be very difficult for either author or publisher to go beyond the mark which has here been established.

Of Dr. Kelly's work as organizer of a noted school in gynæcology which already numbers many distinguished men, of his brilliant researches in a field which has heretofore been cultivated by few, and of his great skill and dexterity as a gynæcological surgeon, nothing need be said, for all who are familiar with the current progress in this particular line of industry are entirely conversant with these facts. With such antecedents we should expect from him nothing less than could be afforded by the best thought of the age. As already stated, he has not disappointed us.

We have long insisted that one of the chief merits, if not the chief one, in a work which aims to teach surgical technique should be an artistic series of drawings which would not only illustrate but amplify the text. A work on gynæcology which is defective in this particular misses the vital point in effectiveness. The artistic work in Dr. Kelly's book is simply superb. It is a chart in topographical anatomy and, so far as we are aware, exceeds all kindred works in comprehensiveness, in correctness of detail, and in beauty. If, on the one hand, it appeals to those who are occupied mainly in surgical procedure, on the other it furnishes an anatomical atlas to all whose work is in any way connected with the female abdomen and pelvis. The hand-atlases in dermatology and in obstetrics, which have long been accepted modes of teaching, illustrate the proposition which has been advanced as to the desirability of a similar mode of teaching gynæcology.

The author states that his work is a summary of the various gynæcological operations which have been found best in his practice.

At the present time, so broad is the field of gynæcological experience, so rich the material in the various countries in which gynæcology has been developed these fifty years past, that one who should attempt to compass this entire field in a systematic treatise would find old age approaching when his task was half done; hence we believe that authors of experience will more and more follow the method which Kelly has chosen and narrate principally their own experience.

Of the arrangement of the text there is nothing unusual or striking in the method followed; the essential details for preparation of operator and operating room, bacteriological considerations, anatomical fundamentals and directions for examinations, and suitable instruments, are necessarily considered first, and they consume, in statement sufficiently terse and lucid, the first quarter of the book.

The chapter on anæsthesia is carefully elaborated, not too carefully, for most surgeons are beginning, at length, to recognize the important rôle which this plays in every operation. There is a new nomenclature in some of the succeeding chapters, there is a freedom of expression which bows not to the respectable but outgrown theories of the past generation of American gynæcologists.

The *pièce de résistance,* as all who know the author would expect, is the chapters on the urinary organs. Useful as Kelly's work has been in this field, useful, while it can not detract from the excellence of the original work of Pawlik and a few others, we are inclined to think there is an over-refinement about it, a tendency to find too much in this field, and in hands less skillful the possibilities of doing harm to the bladder and ureters, of finding disease where no disease exists, are real and positive. Cystoscopy by Kelly's method may be a comparatively simple matter for one who has judgment and experience—manipulation of the ureters can never be either simple or adapted for general use. It should not be forgotten that Nature has arranged the bladder and ureters for the drainage of the kidneys, that two kidneys are always better than one, and that, though Nature may err and the interrogation of the ureters be required to detect and correct the error, such cases are rare and exceptional, and require exceptional skill. Far simpler than ureteral manipulation is the incision and drainage of the bladder, and we could wish that greater stress had been laid upon this useful procedure before invading the ureters and kidneys.

A very useful section of the volume is that which deals with curettage of the uterus. This is an operation which is greatly abused. Too often it is done by unskillful hands, too often the uterus is perforated, and even death has resulted at the hands of those whose extensive experience should render such an accident almost unjustifiable.

We can not close without a word of praise for the work of the publishers, which has enabled the author to present to the public one of the most beautiful and perfect specimens of the printer's art which has ever appeared.

Report on Bubonic Plague. Being a Report based upon Observations on Nine Hundred and Thirty-nine Cases of Bubonic Plague treated at the Municipal Hospital for Infectious Diseases at Arthur Road, Bombay, from September 24, 1896, to February 28, 1897. By Khan Bahadur N. H. Choksy, Extra Assistant Health Officer, Bombay Municipality. Bombay: The Times of India Press, 1897. Pp. 57.

This is a very thorough analytical report on a most interesting series of cases, and will prove a valuable addition to the literature of the subject. Ætiology, symptoms, and treatment are fully discussed, and a large number of valuable statistical tables and charts are appended.

The American Yearbook of Medicine and Surgery. Being a Yearly Digest of Scientific Progress and Authoritative Opinion in all Branches of Medicine and Surgery, drawn from Journals, Monographs, and Text-books of the Leading American and Foreign Authors and Investigators. Collected and arranged with Critical Editorial Comments by Samuel W. Abbott, M. D., John J. Abel, M. D., J. M. Baldy, M. D., Charles H. Burnett, M. D., Archibald Church, M. D., J. Chalmers Da Costa, M. D., W. A. Newman Dorland, M. D., Louis A. Duhring, M. D., Virgil P. Gibney, M. D., Homer W. Gibney, M. D., Henry A. Griffin, M. D., John Guitéras, M. D., C. A. Hamann, M. D., Howard F. Hansell, M. D., Barton Cooke Hirst, M. D., E. Fletcher Ingals, M. D., Wyatt Johnston, M. D., W. W. Keen, M. D., Henry G. Ohls, M. D., William Pepper, M. D., Wendell Reber, M. D., David Riesman, M. D., Louis Starr, M. D., Alfred Stengel, M. D., G. N. Stewart, M. D., J. R. Tillinghast, Jr., M. D., and Thompson S. Westcott, M. D. Under the General Editorial Charge of George M. Gould, M. D. Illustrated. Philadelphia: W. B. Saunders, 1898. Pp. 3 to 1077.

This annual publication has become so widely and so favorably known in its three years' existence that it seems almost superfluous to describe it, or to do more than mention the points wherein this year's issue differs from its predecessors, and to refer very briefly to a few of the more important topics.

The departments of legal medicine, hygiene, and physiological chemistry have been put in the hands of editors whose names insure the satisfactory treatment of their respective subjects.

In general medicine, a thorough analysis of the Widal test shows that in a large proportion of cases a correct result is given. Tuberculosis is sufficiently discussed to indicate that no progress has been made toward a specific remedy. Some stress is laid on the prophylaxis of tuberculosis, but not as much as the subject would warrant. There is much that is interesting and very well abstracted; the editorial notes are conservative and helpful and might, we venture to suggest, be increased, for the value of the work to the average reader lies not only in the *résumé* of the literature, but in the attitude of the editors. This comment applies to all of the departments.

In the department of general surgery there seems to have been less effort at condensation than in other portions of the book, and the literary form has been noticeably improved in consequence. There has evidently been no distinct step forward in this department, but the tone of conservatism is reassuring.

In pathology, the rôle of the blastomycetes in the causation of cancer is again urged by the Italian school, but the editor, as in the previous *Yearbook,* advises caution in accepting the conclusions. This instance will serve to illustrate sufficiently the value of such a review as that under consideration: there is, or should be, a continuity of thought from year to year, following the evolution of ideas, thereby recording growth or failure according to the standpoint of the editors.

The *Yearbook* does not entirely maintain the same level of excellence throughout, and in some places criticism is due, but it would be invidious to select the few faults where the general standard is so high.

It is, unfortunately, only a book for reference, its size precluding other uses, but in its field it is, we believe, indispensable for the medical man who would keep in touch with the progress of his art.

Accident and Injury: Their Relations to Diseases of the Nervous System. By Pearce Bailey, A. M., M. D., Consulting Neurologist to St. Luke's Hospital, New York, etc. New York: D. Appleton and Company, 1898. Pp. xii–430.

There has long been need of a work which should place before the medical as well as the legal profession the more recent ideas of neurologists in relation to the effects of trauma upon the nervous system. It is over thirty years since Erichsen first wrote upon railway and other injuries of the nervous system, and more than twenty since he discussed spinal concussion. Erichsen, moreover, was a surgeon to whom all this latter-day development of neurological science was naturally a sealed book. Another English surgeon, Page, in the employ of the London and Northwestern Railway, contributed somewhat later (1883 and 1891) to the subject of railway injuries. His work was a distinct advance upon that of Erichsen. Aside from these two volumes and a few scattered articles by neurologists in current journals, no contribution of great importance was made to the study of the effects of trauma upon the nervous system until Oppenheim in 1889 published a monograph entitled *Die traumatische Neurosen.* Since then other neurologists have from time to time given to the profession the results of their experience, experiment, and thought in this connection, but their articles are dispersed in various publications in different languages and are inaccessible to many readers. It is fortunate, therefore, that the practitioner as well as the lawyer now has at his disposal a work in which all of the main features of the relations between trauma and the nervous system are gathered together and judicially surveyed; fortunate, too, that the book is written from the standpoint of the neurologist rather than from that of the surgeon.

Dr. Bailey has wisely preceded his account of the functional effects of injury by several chapters on the immediate and ultimate organic effects of trauma to the brain, spinal cord, and peripheral nerves. A thorough understanding of these serves, naturally, as an introduction to the chapters on the traumatic neuroses, since the symptomatology of gross lesions must shade off gradually into the syndromes of microscopic lesions or of purely functional disorders. Without a thorough comprehension of the one, we are not in a position to grasp the problems of the other. The bulk of the book is concerned with the discussion of the subjects just described, but not less important are the introduction, devoted to the practical examination of the patient, and Parts III and IV, which deal respectively with malingering and with the treatment of the traumatic neuroses. We can not take space here to enter into a discussion of some of the questions suggested by the book. We think that the author regards dispassionately, and with a scientific eye, such points as are still looked upon as unsettled in the neurological domain. He presents his subject with brevity and clearness. His style leaves little to be desired, for he is explicit and scholarly in all that he has to say. We prophesy for the book a cordial welcome by the members of two professions, and a sphere of utility seldom open to a work dealing with a limited field in these days of voluminous expression. The volume is widely illustrated; and from the standpoint of book-making is a credit to the printer and binder.

BOOKS, ETC., RECEIVED.

Political Crime. By Louis Proal. With an Introduction by Professor Franklin H. Giddings, of Columbia University. New York: D. Appleton and Company, 1898. Pp. xxii–355. [Price, $1.50.]

Diseases of the Stomach. A Text-book for Practitioners and Students. By Max Einhorn, M. D., Adjunct Professor in Clinical Medicine at the New York Post-graduate Medical School and Hospital, etc. Second Revised Edition. New York: William Wood and Company, 1898. Pp. xvi–486. [Price, $3.75.]

Modern Gynæcology. A Treatise on Diseases of Women. Comprising the Results of the Latest Investigations and Treatment in the Branch of Medical Science. By Charles H. Bushong, M. D., Assistant Gynæcologist to the Demilt Dispensary, New York, etc. Illustrated. Second Edition, enlarged. New York: E. B. Treat and Company, 1898. Pp. 6 to 404. [Price, $2.]

Atlas and Abstract of the Diseases of the Larynx. By Dr. L. Grünwald, of Munich. Authorized Translation from the German. Edited by Charles P. Grayson, M. D., Lecturer on Laryngology and Rhinology in the University of Pennsylvania, etc. With One Hundred and Seven Colored Figures on Forty-four Plates. Philadelphia: W. B. Saunders, 1898. Pp. 3 to 103. [Price, $2.50.] [Saunders's Medical Hand Atlases.]

Atlas of Legal Medicine. By Dr. E. von Hofmann, Professor of Legal Medicine and Director of the Medico-legal Institute at Vienna. Authorized Translation from the German. Edited by Frederick Peterson, M. D., Clinical Professor of Mental Diseases in the Woman's Medical College, New York, etc. Assisted by Aloysius O. J. Kelly, M. D., Instructor in Physical Diagnosis, University of Pennsylvania, etc. Fifty-six Plates in Colors, and One Hundred and Nintey-three Illustrations in Black. Philadelphia: W. B. Saunders, 1898. [Price, $3.50.] [Saunders's Medical Hand Atlases.]

Die Hyperplasie der Rachentonsille und die adenoiden Vegetationen des Nasenrachenraumes. Von Dr. Gustav Abeles, prakt. Arzt in Wien. Mit fünfzehn Abbildungen im Texte. Leipzig: C. G. Naumann, 1898. Pp. vi–1 to 122.

Transactions of the National Confederation of State Medical Examining and Licensing Boards. Seventh Annual Meeting, held in Philadelphia, May 31, 1897.

Forty-eighth Annual Report of the St. Vincent's Hospital of the City of New York. For the Year 1897.

Entire Records of Medico-surgical Practice, with Auxiliary Blood Supply—" Hæmatherapy "—at Sound View Hospital.

A New and Successful Treatment of Certain Forms of Headache. By E. Larue Vansant, M. D., of Philadelphia. [Reprinted from the *Philadelphia Medical Journal.*]

Mutual Relations of the Railway Surgeon and the Neurologist. By J. T. Eskridge, M. D., of Denver. [Reprinted from the *Journal of the American Medical Association.*]

Miscellany.

Diagnosis and Cure of a Lingual Tumor by Intramuscular Injections of Calomel.—Dr. P. D. Cristini (*Gazette medica Lombarda,* May 23d) records the case of a woman fifty-four years of age who came to the Civil Hospital of Bergamo with a lingual tumor, which was diagnosticated as cancer. There was a family history of cancer on the mother's side, and a brother had had a tumor removed. The woman's tumor was about the size of a nut, hard, ulcerated at one point, and slightly painful to the touch. As she had not led a strictly virtuous life in youth, she was kept under observation, and a grain and a half of calomel was injected intramuscularly after the method of Scarenzio. In three days there was notable amelioration of the symptoms, and total dispersion in five days.

The First Nathan Lewis Hatfield Prize for Original Research in Medicine.—The College of Physicians of Philadelphia announces through its committee that the sum of five hundred dollars will be awarded to the author of the best essay in competition for the foregoing prize. Subject: A Pathological and Clinical Study of the Thymus Gland and its Relations. Essays must be submitted on or before January 1, 1900, and each essay must be typewritten, designated by a motto or device, and accompanied by a sealed envelope bearing the same motto or device and containing the name and address of the author. No envelope will be opened except that which accompanies the successful essay. The committee will return the unsuccessful essays if reclaimed by their respective writers or their agents within one year; and it reserves the right not to make an award if no essay submitted is considered worthy of the prize. The treatment of the subject must, in accordance with the conditions of the trust, embody original observations or researches or original deductions. The competition shall be open to members of the medical profession and men of science in the United States. The original of the successful essay shall become the property of the College of Physicians. The trustees shall have full control of the publication of the memorial essay. It shall be published in the *Transactions* of the college, and also, when expedient, as a separate issue. Address J. C. Wilson, M. D., chairman, College of Physicians, 219 South Thirteenth Street, Philadelphia, Pa.

The Fourth International Congress of Physiologists.—According to *Science* for June 3d, Professor Foster, president of the Fourth International Congress of Physiologists, which meets at Cambridge, England, from August 21st to 26th, has issued a circular giving information regarding accommodation for those attending. Many of the colleges have offered rooms for the use of members free of charge, except a small sum for attendance. Ladies can not, however, reside in the colleges, but lodgings in the town are provided at a cost of less than one dollar, including light and attendance, and meals can be taken in the college halls. Those wishing to secure lodgings or hotel accommodation are requested to address Dr. Shore, the local secretary, at the Physiological Laboratory, Cambridge, England.

An Infirmary for Harvard.—A site has been secured (*Boston Medical and Surgical Journal,* June 2d) between the Cambridge Hospital and the Old Ladies' Home with a hundred feet of front on Mount Auburn Street and extending back to Charles River Parkway. The proposed plans are furnished by Edward W. Kingsbury, and there is money in hand to purchase the site and leave a small surplus toward the building fund. The infirmary is to contain single rooms for students, library and reading room for convalescents, rooms for parents whose sons are in the infirmary, bath rooms, laboratories, and diet kitchen. Payments will be made by such students as can afford it in proportion to their means, and the students coming to the infirmary will be entitled to all the privileges of a regular hospital.

The Bacteriology of Endocarditis.—Dr. S. Dessy (*Lo sperimentale,* anno lii, fasc. 1) gives clinical records, followed by analytical tables, of thirty-six cases of endocarditis studied from the bacteriological point of view by microscopical and culture methods. In thirty-four cases the result was positive, in two only it was negative, since neither the microscopical examination nor culture methods revealed in the substance of the valve any pathogenic micro-organisms. The histological examination in both these cases established the fact that they were not a true endocarditis, but an atrophic thrombosis. From an analysis of the cases the author concludes that: 1. The diplococcus and the streptococcus are the most constant agents in endocarditis. 2. That these are able to produce, whether alone or associated with other micro-organisms, the ulcerated as well as the verrucose form. 3. That the diplococcus more frequently causes aortic, and the streptococcus mitral, endocarditis.

Extraordinarily High Specific Gravity of Urine.—Dr. M. D. Hoge, Jr. (*Virginia Medical Semimonthly,* May 27th), reports the case of a woman aged twenty-one, weighing a hundred and twenty-one pounds, who, having been relieved by treatment of acute ovaritis, suddenly developed irritation of the bladder, with scalding, etc. She did not pass over half a pint of urine in twenty-four hours, and this deposited a high-colored substance every morning. Dr. Hoge says that the bottle of urine brought him was dark in color, of acid reaction, and the quantity passed in twenty-four hours seven hundred cubic centimetres. A chemical examination showed no albumin, no sugar; the amount of urea was normal, as well as the phosphates and sulphates. Microscopically, the usual nubecula was found, consisting of vaginal epithelium, mucous corpuscles, etc., but nothing of a pathological nature. On taking the specific gravity, he was astounded to see the urinometer suddenly shoot up in the tube, and stand some distance beyond the highest reading on the scale (1.060). It was necessary to dilute the urine with an equal quantity of distilled water, and multiply the result by two, which gave the astounding figure of 1.120. The amount of chlorides was so great that the standard solution of nitrate of silver could not be used. Dr. William R. Jones, professor of chemistry in the University College of Medicine, kindly made the quantitative analysis of the chlorides, and found them to be 3.9 per cent. by weight; or the whole amount in seven hundred cubic centimetres of urine to be 27.6 grammes. When it is considered that from ten to thirteen grammes of chlorides are eliminated in twenty-four hours, under normal conditions of food and exercise, it will be seen at once what an enormous increase there was here, where the chlorides were doubled in amount, and the urine diminished one half in quantity. On inquiry it was found that the woman ate largely of salt pork, ham, mackerel, and seasoned her other food with a considerable amount of salt. She rarely drank water, but used tea and coffee.

Note on the "Setting Time" of Plaster of Paris.—Apropos of our note on this subject in the *New York Medical Journal* for April 16th, Dr. E. J. Waye (*American Dental Weekly* for June 4th) writes that that idea about a five-per-cent. solution of sodium chloride being the thing for the setting of plaster is an old chestnut, as it has been known to the dental profession for many long years, and has been discarded, for the reason that its defects have been found to greatly outweigh its advantages. A much better material for the purpose, and one which has none of the disagreeable qualities of the sodium chloride, is the sulphate of potassium in solution with water. It can be used in any strength, and the stronger the solution the more quickly will the plaster set.

The Germicidal Power of Formaldehyde. — Dr. David D. Brough (*Journal of the Massachusetts Association of Boards of Health*, March; *Sanitarian*, June) thus sums up the results of two series of exhaustive experiments detailed in a paper on the Use of Formaldehyde in House Disinfection: 1. That formaldehyde gas is a very efficient and practical germicide for superficial disinfection. 2. That its penetrating power under ordinary conditions is very slight. For deep penetration it has practically no value. 3. That larger amounts give much more constant and satisfactory results than small amounts. 4. That, other things being equal, the gas acts better at fairly high temperatures than at low. It also apparently gives better results in warm, dry rooms than in those that are cold and damp. 5. That its action does not seem to depend on the length of exposure. In five hours' exposure the results were the same as for a longer period. It may be here noticed, in conclusion, that the gas is not so innocuous to animal life as some writers have stated. While no experiments were made with this in view, it was observed that all the flies were invariably killed, and generally the bedbugs. One dog and two cats, which were accidentally left in the rooms of different houses, and exposed to the action of the gas, were found dead when the rooms were opened.

Fracture of Cervical Vertebra not rapidly Fatal.—It is reported that John Keogh, a boy, nine years of age, living near Philadelphia, fell from a tree on June 9, 1897, and sustained a fracture of the cervical vertebræ, diagnosticated by means of the X ray, which showed a particle of bone pressing against the spinal cord. An operation was performed, and the spicula of bone removed. The patient's head was subsequently held in proper position by means of proper appliances, and he was afterward able to be wheeled about the grounds in an invalid's chair. Death occurred in Cooper Hospital, Camden, N. J., on June 1, 1898.

The Effect of Alcoholism upon Paternity.—Anthony (*Gazette hebdomadaire de médecine et de chirurgie*, No. 24, 1897; *Philadelphia Polyclinic*, June 4th) records the case of a woman of seventeen who married an intemperate husband, by whom she had five weakly children, of which four died within ten days of birth, and one succumbed before reaching four years. The mother then married again, to a perfectly robust man, by whom she has had two children, both stout and healthy.

Chronic Nasal Inflammation in Relation to Nervous Prostration.—Dr. Thomas F. Rumbold (*Atlantic Medical Weekly*, June 4th), in a paper on this subject, attributes the nervous prostration commonly attributed to "overwork" to chronic nasal inflammation, the most potent and frequent factor in the production of which he asserts to be the result of excesses of alcohol, tobacco, venery, and "colds" induced thereby. These practices, he says, increase the congestion of the nasal mucous membrane, producing a tendency to "colds," and since the blood supply of the upper two thirds of the nasal passages, the anterior and posterior ethmoidal cavities, the sphenoidal cells, and the frontal sinuses, is derived from within the cranium, the vascular paresis commencing at the periphery gradually travels to the brain vascular system, and the author holds that this disturbance of the cerebral circulation is the real reason of the irritability of temper, inability to hold the mind continuously on a definite subject, sleeplessness, forgetfulness, desire for change, and excitement, accompanied by physical exhaustion and loss of ambition, which are commonly attributed by the physician to the continuous application of the mind to business and professional duties.

Surgeon-General Sternberg's Address before the American Medical Association.—As we expected, Surgeon-General George M. Sternberg, of the army, the president of the American Medical Association, was unable to be present at the association's recent meeting, owing to the unusual amount of work thrown upon him by the existence of war. He wrote an admirable address, however, and it was read at the meeting by Lieutenant-Colonel Alfred A. Woodhull, of the medical corps of the army. By the courtesy of Dr. John B. Hamilton, the editor of the *Journal of the American Medical Association*, we are enabled to present the following extracts from General Sternberg's address:

To maintain our standing in the estimation of the educated classes we must not rely upon our diplomas or upon our membership in medical societies, but must show ourselves superior in knowledge and in professional resources to the ignorant pretender or to the graduate of a medical school which is bound in its teachings by an untenable creed, adopted before the light of science had taught physicians to reject theories and the dicta of authorities in favor of truths demonstrated by modern methods of research. There are those who still speak of us as "old-school physicians," ignorant apparently of the fact that scientific medicine is to a great extent of very recent origin, and that all of the great discoveries in relation to the ætiology, prevention, and specific treatment of infectious diseases, and nearly all the improved methods and instrumental appliances for clinical diagnosis and surgical treatment, have had their origin within the ranks of the regular profession. While, therefore, we still have with us some "old-school doctors," who have fallen behind the procession, the profession as a whole has been moving forward with incredible activity upon the substantial basis of scientific research, and, if we are to be characterized by any distinctive name, the only one applicable would be "*the new school of scientific medicine.*" Not that our science is complete, for we have still many things to learn and many problems which have thus far resisted all efforts at their solution; but we have learned how to attack these problems, and no one any longer expects that they can be solved by the exercise of the reasoning powers and the facile use of the pen. The old saying has it that "the pen is mightier than the sword." This is no doubt true in politics, but in science the pen is a feeble instrument compared with the test tube, the microscope, the chemical balance, etc. Nevertheless, I am about to advise well-informed physicians to make greater use of the pen, not for the elucidation of those problems which remain to be solved, but for the purpose of calling the attention of the non-medical portion of the community to the recent achievements of scientific medicine. It is a remarkable and lamentable fact that many persons belonging to the so-called educated classes are grossly ignorant as regards the present status of medical science. They not only speak of us as "old-school doctors," but they intrust their lives and those of their children to pseudo-scientists who, taking advantage of popular interest in the great discoveries of the day, make extravagant pretensions as to the curative power of electricity, the X ray, oxygen, ozone, or some wonderful microbe-destroyer. Or, ignoring the exact knowledge which has been gained by experience and painstaking researches with reference to the ætiology of various diseases and the curative action of approved therapeutic agents, they accept the vagaries of the osteopath and the Christian scientist as representing the latest development of scientific progress in medicine. The false assertions of ignorant enthusiasts and conscienceless vampires, as a rule, pass unchallenged. Not only are they able to impose upon a gullible public through their published advertisements, but articles written by them or for them appear in the columns of reputable newspapers. The ever-present and irresponsible newspaper reporter espouses their cause through ignorance or for gain, and their wonderful cures are related and copied from one paper to another without any competent critic raising his voice to show their fallacy. Again, positive denials of the value of the well-established achievements of scientific medicine are often made, unfortunately too often by men who are authorized to attach the letters M. D. to their signatures. This leads to the frequent repetition of the old question as to "who shall decide when doctors disagree?" No matter how well a fact may be established by repeated experiment or by the common experience of the profession, some doctor may be found who, through ignorance or that obliquity of mental vision which characterizes the crank, will deny its truth. Thus, there are doctors who deny the value of vaccination, others who fail to recognize any value in results obtained by experiments on the lower animals, others who deny the ætiological *rôle* of well-known pathogenic bacteria, etc. As a result, the antivaccination and antivivisection societies are able to fortify their position by quoting the opinions of medical men of more or less repute. But opinions are of no value when opposed to evidence, and it seems to me that those familiar with the evidence would do well to give to the public concise and comprehensible statements, suitable for publication in newspapers and popular magazines, setting forth the facts and the evidence upon which these facts are accepted by well-informed physicians. But in doing so great care should be taken not to make any assertions that are not based upon reliable data. A distinguished surgeon who has taken an active part in opposing the antivivisection bill introduced into the senate of the United States through the influence of the Washington Humane Society recently wrote me as follows:

"I have been corresponding with Welch, Burrell, Bowditch, and others in reference to the formation of a society for the distribution of literature and fostering the sentiment in favor of scientific research. I would be glad to have your own views in the matter. It has occurred to me that at the meeting of the various special societies, and especially at the American Medical Association, this spring it might be well to introduce resolutions indorsing the formation of such a society."

In reply to this letter I said:

"With reference to your suggestion as to the formation of a society for the objects mentioned, I think the idea is a good one and shall be glad to aid you in carrying it out. I think we have given those who are opposed to scientific medicine too much rope in allowing them to publish all sorts of misleading statements without our taking the trouble to contradict them or to educate the people. If we had an association organized for the purpose of answering such false statements as have circulation in the newspapers much good might result. When this is left to individuals generally no action is taken, on account, perhaps, of the disinclination on the part of competent physicians to have their names attached to articles appearing in the newspapers lest they may be thought by their professional brethren to be seeking notoriety and be accused of unethical conduct. Certainly it seems to me that the profession has a duty to perform in this direction, and I hope you will take some steps to bring about such an organization as you suggest."

In carrying out this plan care should be taken not to engage in controversy with individuals whose misleading statements we desire to correct, but rather to have a systematic plan for placing the truth before the public. For example, an article on the medical uses of electricity might show its limitations and call attention to the fact that it has no germicidal effect when currents are used which are not destructive of the living tissues. Reference might then be made to the unscientific nature of the evidence offered in favor of the curative action of electric belts, electric rings, and the electropoise, which is described as "a little instrument which enables the system to take on oxygen freely from the atmosphere." I venture to quote from a paper entitled Science and Pseudo-science in Medicine, which I read before the Anthropological Society of Washington in 1896, in further illustration of the kind of missionary work in the education of the public which I think such an organization as has been proposed should undertake. Referring to the electropoise, I say:

"The *modus operandi* of this wonderful instrument is more fully explained in the following published certificate (advertisement in *McClure's Magazine*):

"One might conclude, from its name, that it was an electric battery. But it does not generate electricity and is in no sense a battery, belt, sole, or anything kindred to them. It consists of a small cylinder called a 'polarizer,' which is used in connection with the patient's body by means of a common electric cord. This polarizer causes oxygen from the atmosphere to be absorbed by the entire surface of the body with great rapidity, the strength of the absorption being regulated according to the ability of the patient to receive.

. . . .

"After a year's use we have this to say in its favor: 1. We have taken no medicine for the year. 2. All traces of *la grippe* and an old sunstroke trouble have disappeared and no symptoms of either remain. Once or twice, from severe overwork, we have found it necessary to hold up for a few days, but in no time for fifteen years have we been better than during the past year. Much of this we attribute to the use of the 'electropoise.'

"This notice of the 'electropoise' is without solicitation and entirely gratuitous. We do it for the good of the afflicted. We have no personal interest in it and are not paid for what we say in its favor. Persons desiring further information can address the agent. —The Rev. William McDonald, in the *Boston Christian Witness.*"

We would suggest to the Rev. William McDonald that he try the following simple experiment: Having connected the "polarizer" with his leg by means of the "common electric cord," let him place one hand over his mouth and nose, thus shutting off oxygen of the atmosphere from the lungs, which have been provided by Nature to furnish the necessary supply of this gas. Now let him note by a watch how long the supply of oxygen "absorbed from the entire surface of the body" will answer as a substitute for Nature's method of supplying this gas. We venture also to suggest to the Rev. William McDonald that "all traces of *la grippe* and of an old sunstroke trouble" might have disappeared during the year if he had not used the electropoise. Assuming that this certificate is genuine, it answers very well to illustrate the fact that educated men who have not been trained in the methods of scientific investigation often arrive at conclusions entirely unjustified by the evidence before them and by the dangerous use of the *post-hoc-ergo-propter-hoc* method of argument.

The fact that a considerable proportion of those who are sick from various acute or chronic ailments recover after a time, independently of the use of medicinal agents or methods of treatment, taken in connection with this tendency to ascribe recovery to the treatment employed, makes it an easy matter to obtain certificates of cure for any nostrum which an unprincipled money-seeker may see fit to offer to a credulous public. If ten in a thousand of those who have used the alleged remedy believe themselves to have been benefited, their certificates will answer all purposes of exploitation, and the nine hundred and ninety will not be heard from by the general public.

As was to have been expected, the X ray has already been made a source of revenue by more than one pseudo-scientist. The following account of the *modus operandi* of its supposed therapeutic action has recently been published in the newspapers:

"After the Crookes's tube is excited by the coil the magnetic lines of force are projected down in the same manner as they pass off from a magnet, and traversing the intervening space, pass through the body down to the floor and back to the coil and tube again, completing the circuit.

"The X ray is electrostatic in character and of a very high potential. With every discharge from the Crookes's tube oxygen is liberated in the body, as well as the surrounding atmosphere, which, combining with nascent oxygen, forms ozone.

"It is due to the electrolysis produced in the body that we are able to destroy the bacilli in contagious disease, ozone being the most powerful germicide known.

"We remark, first, that we do not fully understand why the 'magnetic lines of force' are reflected back by the floor, 'completing the circuit.' Inasmuch as the X rays pass through wood, this mysterious action of the floor appears to call for some further explanation.

"We will pass by the ingenious explanation of the formation of ozone, as a result of the action of the X ray, to call attention to the mistaken statement that ozone is 'the most powerful germicide known.'

"The experiments of Fränkel show that the aerobic bacteria grow abundantly in the presence of pure oxygen, and some species even more so than in ordinary air.

"It was formerly supposed that ozone would prove to be a most valuable agent for disinfecting purposes, but recent experiments show that it is not so active a germicide as was anticipated, and that from a practical point of view it has comparatively little value.

"Lukaschewitsch found that one gramme in the space of a cubic metre failed to kill anthrax spores in twenty-four hours. The cholera spirillum in a moist state was killed in this time by the same amount, but fifteen hours' exposure failed to destroy it. Ozone for these experiments was developed by means of electricity.

"Wyssokowicz found that the presence of ozone in a culture medium restrained the development of the anthrax bacillus, the bacillus of typhoid fever, and others tested, but concludes that this is rather due to the oxidation of bases contained in the nutrient medium than to a direct action upon the pathogenic bacteria.

"The conclusion reached by Nissen, from his own experiments and a careful consideration of those previously made by others, is that ozone is of no practical value as a germicide in therapeutics or disinfection."

Unfortunately, lack of information relating to the definite results of scientific investigations is not confined to the non-medical members of the community. The statement above quoted to the effect that the X ray, by electrolysis, produces ozone when passed through the body and that ozone is the most powerful germicide known, sounds very scientific, and having been made by one who has a legal right to attach the letters M. D. to his name, no doubt has been accepted as a reliable statement of fact by many educated people who have read the newspaper paragraph in which the statement occurs, which, having started in Chicago, was widely copied as an item of interest to the public in connection with the recent discovery of the remarkable properties of the X ray.

Whenever any new discovery in medicine is announced some conservative physicians, and often men of reputation in the profession, are sure to commit themselves to a positive denial of the alleged fact. This occurred when the discovery of the tubercle bacillus was announced by Koch, it has occurred with reference to the treatment of diphtheria with antitoxine, and to the preventive treatment of hydrophobia by Pasteur's method. Yet these discoveries are based upon experimental evidence of the most unimpeachable character. To deny their reliability at the present day is simply to show ignorance of the nature of this evidence or a failure to appreciate its scientific value. Often the positive and premature statements of a physician relating to new discoveries in medicine are corrected, or at least regretted, at a later date; but sometimes the pride of opinion prevents a retraction in the face of the most conclusive evidence. The result is that such opinions, although they may have been given years ago, are always available to controvert the statements of those who maintain the value of vaccination, of experiments on the lower animals, of the diphtheria antitoxine, etc., and the non-medical public very often accept the opinions which coincide with their preconceived views, or arrive at the conclusion that there is nothing settled in our so-called medical science. It should be our aim to remedy this evil by elevating the standard of medical education, as we are doing in many parts of the country, by impressing upon the rising generation of physicians the importance of laboratory work, not only as a means of instruction, but for the purpose of cultivating a scientific spirit of inquiry and just appreciation of the value of experimental evidence; and, finally, by instructing the public with reference to the present status of scientific medicine, the difference between fact and fancy, between the vagaries of the imagination and the demonstrable results of scientific investigation.

With the progress of scientific medicine, we have improved methods of teaching, and it is now generally recognized that reading medical books and listening to lectures is not a sufficient preparation for the practice of medicine, any more than the reading of books on navigation would be for the responsible position of captain of an ocean steamer. It is for this reason that we insist upon the study of anatomy in the dissecting room, the teaching of methods of diagnosis and treatment at the bedside, and the study of chemistry, physiology, and pathology in the laboratory. It is only within the past few years that our leading medical colleges have provided suitable facilities for practical laboratory work, and even at the present day, as I understand, the laboratory courses are not compulsory in some institutions which provide for a four-years' course of study as a requisite for receiving the degree of doctor of medicine. From my point of view these laboratory courses are a most essential part of the medical curriculum, not only because the student becomes familiar with the use of instruments and methods which will be of inestimable value to him in the practice of his profession, but especially because of the effect of the kind of training he there receives in enabling him to judge of the imperfections of our unaided senses and the small value of opinions in comparison with that of facts capable of demonstration; as also the relative importance of many things which to the superficial observer might appear to be insignificant and unworthy of attention. He learns not to accept the assertion of the professor in the lecture room or the dictum of any authority if this is in conflict with experimental evidence which he is able to verify for himself. On the other hand, he learns not to have an overweening confidence in his own judgment and powers of observation. He may fail to demonstrate the flagella on the typhoid bacillus or the presence of the plasmodium in the blood of a malarial-fever patient, or of a trace of arsenic in the tissues of one who died with symptoms of arsenical poisoning. But, having learned by repeated investigation that the failure was due to his want of skill in the use of the microscope or in the application of delicate methods of investigation, he learns that it is unscientific and injudicious to give a premature opinion in regard to any subject under investigation, and especially so when this opinion is based upon negative evidence. Failure to find the tubercle bacillus in a given specimen of sputum has little value unless the examination has been repeatedly made by an expert. It unfortunately too often happens that physicians, after a very perfunctory investigation, give a positive opinion based upon negative evidence. I have investigated, I have not found, consequently it does not exist. This is the attitude of the unscientific but self-satisfied man, and it often leads to mistakes which are not only discreditable to the individual but damaging to the profession of medicine; for the mistakes of the doctors, as a rule, attract much more attention than their successes. The painstaking work and attention to details required of students engaged in chemical, physiological, bacteriological, or histological studies, and the failure in their attempt to repeat an experiment or demonstration if through haste or carelessness they neglect any steps in the necessary technical processes, constitute an invaluable lesson. Indeed, the scientific medicine of the present day can only be taught by such methods, and the scientific physician of the future must make his way to fame and fortune by traveling this somewhat difficult and time-consuming road.

I have spoken of the danger of arriving at hasty conclusions upon negative evidence, and wish now to call attention to the fact that physicians too often fail to recognize the value of negative evidence as opposed to the deductions made from facts coming under their immediate observation. Thus, a case of paralysis following diphtheria may be ascribed to the administration of diphtheria antitoxine, but in view of the fact that paralysis often follows diphtheria when no antitoxine has been given, and of the negative evidence relating to the administration of the antitoxine in thousands of cases and in immunizing doses in other thousands of individuals, the deduction in a particular case that paralysis and the administration of antitoxine stand in the relation of cause and effect may well be doubted. Again, when a case of yellow fever occurs in one of our seaport cities, failure to trace the channel of infection has not infrequently led to the inference that the disease was of local origin. The fallacy here depends upon the assumption that the investigation has excluded all possible avenues for the importation of the infectious material from a foreign source, and a want of appreciation of the negative evidence which shows that yellow-fever epidemics never have their origin at interior towns, and that they do not originate at towns on the seacoast which have no foreign commerce. As well might we conclude, as perhaps some have done, that a case of small-pox is of *de novo* origin because the physician who sought to find the source of contagion was unable to do so. The negative evidence relating to the non-occurrence of small-pox among persons not exposed directly or indirectly to contagion is so conclusive that the profession accepts it as a fact that this disease does not originate independently of a previous case. It is a remarkable fact that some physicians still contend that the deaths which occur from hydrophobia in persons treated by Pasteur's method are due to the treatment and not to the bite of a rabid animal. If there is anything definitely settled in medical science, we know that there is an infectious disease which we call hydrophobia, or rabies, which is transmitted from one animal to another and from animals to man by inoculation, through the bite of a rabid animal. Yet this well-established fact is denied by certain physicians. And, ignoring the fact that more than ninety-nine out of a hundred of those who have been subjected to the Pasteur treatment have not had hydrophobia, although they had been bitten by animals proved in a considerable proportion of the cases to have been rabid, the inference is drawn that the few deaths (less than one per cent.) from hydrophobia which have occurred during or after the treatment are due to this and not to the bite of the rabid animal which preceded the application for treatment.

My object at present is simply to illustrate the value of negative evidence and not to present in detail the experimental evidence relating to the success of Pasteur's method of preventing the development of the disease in persons bitten by a rabid animal. But I may say, *en passant*, that this is one of the great and well-established achievements of scientific medicine, which, however, is still doubted by many physicians not familiar with the evidence, and positively denied by those who prepare and circulate sensational antivivisection literature. In supporting this view they ignore the evidence and publish the opinions of physicians, more or less distinguished, in opposition to the value of the method, which opinions were in some cases given years ago and before the method had been subjected to a sufficient test to demonstrate its practical value. The point I am trying to make clear is not only that it is unscientific to give a positive opinion in advance of the evidence, or by one who is not entirely familiar with it, but that such snap judgments reflect discredit upon the profession. They are used by the enemies of scientific medicine to support their denial of any value resulting from animal experimentation, and greatly increase the difficulties of those whose task it is to convince legislative bodies that the progress made in scientific medicine during the past twenty-five years has been largely due to such experiments, and that restrictive legislation would to a great extent arrest this progress.

Having referred to the injurious consequences of premature and unfounded opinions, especially when given by men of prominence in the profession, I desire to call attention to the best method of counteracting such mischief. This is undoubtedly by united action on the part of the more enlightened members of the profession in behalf of truth and progress. This assistance we have had in combating the antivivisection bill introduced into the United States Senate and vigorously pressed by the members of the Washington Humane Society, supported by their misguided friends in various parts of the country. The result has been eminently satisfactory, and shows that, when exercised in a just cause, the influence of the medical profession is a factor which will not be ignored even by the senate of the United States.

Having made frequent reference to scientific medicine, I may profitably spend a little time in a consideration of the foundations, methods, resources, and prospects of medical science as it exists to-day. We admit in advance that there is still much in medical teaching which is not science, but which is founded upon unproved theories and the traditions which have come down to us from a pre-scientific age. But medical teachers and writers show a constantly increasing appreciation of the methods of science and of the nature of the evidence demanded by it for the establishment of truth and a corresponding want of respect for assertions and theories the truth of which has not been demonstrated.

In all departments of science our exact knowledge has been obtained by observation and experiment, and the advancement of science has largely depended upon improvements in methods of observation and experiment. Thus, the primitive astronomer observed the stars with the unaided eye, but the astronomy of the present day depends upon observations made with the telescope, measurements made with instruments of precision and mathematical processes, the results of which can be controlled and proved in various ways. So in medicine, the older physicians, relying upon their unaided senses, made and recorded observations some of which were exact and constitute part of the medical science of the present day, but many of which were inexact and unreliable, as were the inferences drawn from them. Until the compound microscope was invented and perfected we had no means of discerning the micro-organisms which have been proved to be the cause of many of the infectious diseases, or of recognizing the histological changes which result from various disease processes. By the invention and practical application of such aids to diagnosis as the stethoscope, the ophthalmoscope, the clinical thermometer, the laryngoscope, the vaginal and rectal speculum, the stomach tube, the urinary test case, the microscope, and the X-ray apparatus, we are able to recognize pathological conditions which to the unaided senses of our predecessors were beyond discovery, and, being known only by their effects, led to vague speculations and vain theories as to the ætiology of disease.

Evidently scientific medicine must be founded upon an exact knowledge of the structure (anatomy) and functions (physiology) of the human body in a healthy condition and of the changes in structure and function (pathology) which result from various disease processes; of the causes (ætiology), natural history (clinical medicine), and regional distribution (medical geography) of the diseases which afflict mankind and the lower animals (comparative pathology); of the toxic action of various substances from the animal and vegetable kingdoms (toxicology), and of the use of these and of other non-toxic substances, physical agents, etc., in the treatment of disease (therapeutics), and of the prevention of disease by disinfection, quarantine, protective inoculations, etc. (prophylaxis).

Anatomy, as a fundamental branch of medical science, may be said to have had its birth when dissection of the human body was first practised by the Greek physicians Herophilus and Erasistratus, about three hundred years before the birth of Christ. Since that time constant additions to our knowledge have been made by the same method, and during the present century by the use of the compound microscope, of various staining methods, etc., which have revealed to us the minute anatomy of the tissues. The discovery that various tissues are made up of cells of diversified forms and functions, and that all of these have their origin from one primordial mother cell, the ovum, belongs to the present century and must be regarded as a fundamental fact in its relation to scientific medicine.

The study of structure naturally preceded that of function, and accordingly we find that physiology is of recent birth. Indeed, physiology had no scientific foundation before the discovery of oxygen by Priestley, in 1774, and its progress since that time has gone hand in hand with that of chemistry. Some of its most notable achievements during the present century are: The discovery of the digestive ferments and their action, of the function of the red corpuscles of the blood as carriers of oxygen, of the glycogenic function of the liver, of the inhibitory influence of the pneumogastric nerve upon the heart. It is evident that in advance of these discoveries, which all belong to the present century, there was no scientific basis for medicine so far as physiology is concerned. But to-day the tripod upon which scientific medicine rests—viz., anatomy, chemistry, and physiology—is a substantial structure made up of established facts. While scientific medicine could not exist independently of these fundamental branches, they simply constitute the basis upon which the superstructure has been reared, to a large extent during the last half of the present century. The histological changes which occur as a result of various disease processes were unknown and unknowable in advance of the invention of the compound microscope, and the same is true as regards the ætiology of infectious diseases. While we owe much to the methods of research devised by Pasteur, Koch, and other pioneers in this line of investigation in the application of these methods, the compound microscope is absolutely indispensable. And, as medicine could not profess to be scientific so long as we were ignorant as to the ætiology of disease and of the histologic changes resulting from disease processes, we must recognize the perfection of the compound microscope as the most important event of the century from our present point of view. The principle involved in the construction of the compound microscope was invented as long ago as in the sixteenth century, but it is only within the present century, and principally during the last half of the century, that those improvements have been made which have made it available for ætiological and histological studies. There is, however, a growing disposition to suspect that our microscopes, notwithstanding the great degree of perfection attained in their construction, are still inadequate to the task of revealing to us the specific infectious agents of certain diseases, because of their minute size.

In a late number of the *Centralblatt für Bacteriologie* Löffler and Frosch have published their official report of investigations, made for the German government, relating to the ætiology of foot-and-mouth disease of cattle, the results of which are very interesting in this connection. As in small-pox, rabies, scarlet fever, typhus fever, and certain other infectious diseases, the efforts heretofore made to demonstrate the specific ætiological agent in foot-and-mouth disease have been unsuccessful. The carefully conducted investigations of Löffler and Frosch also failed to demonstrate the presence of any specific micro-organism in the lymph drawn with proper precautions from the vesicles about the mouth or udder of infected cows. Cultures in various media inoculated with this lymph remained sterile and no micro-organisms could be demonstrated, by the use of the microscope, in stained preparations. Nevertheless, experiments showed that this lymph was infectious material and that calves inoculated with a very small amount of it invariably developed the disease in two or three days. Very much to the surprise of the investigators named, they found that lymph which had been filtered through a porcelain cylinder which was proved by experiment to arrest the passage of bacteria retained its full infecting power. That the result was due to the multiplication of the infectious agent in the body of the infected animal, and not merely to the introduction of a very toxic non-living substance present in the lymph, was shown by the small dose required to produce the disease (one to ten to one to forty cubic centimetres of filtered lymph), and also by the fact that the disease could be transmitted to other animals by inoculating them with like amounts of lymph taken from the vesicles which developed in the calves inoculated with filtered lymph. The authors conclude their report as follows:

"It seems difficult to escape the conclusion that the action of filtered lymph does not depend upon a soluble constituent, but upon an agent capable of self-multiplication. This must be so small that it can pass through a filter which retains the smallest known bacteria. The smallest hitherto-known bacterium is the influenza bacillus of Pfeiffer. This has a length of 0.5 to 1μ. If the supposed micro-organism of foot-and-mouth disease was of only one tenth or even one fifth the size of this, which is not at all impossible, it would, according to the reckoning of Professor Abbé, of Jena, be too small to be recognized by our microscopes, even when provided with the best immersion objectives."

In the department of ætiology the most brilliant and far-reaching discoveries of the century are the discovery of the anthrax bacillus (1850) and the demonstration of its ætiological relation to the disease with which it is associated, by Davaine, Pasteur, Koch, and others (1863–1875); the discovery of the tubercle bacillus by Koch (1882) and the discovery of the malarial parasite by Laveran (1879). These discoveries, so essential to the progress of scientific medicine, would evidently have been impossible without the aid of the compound microscope. But just here I wish to insist upon another point, which is, that for the untrained eye the microscope is little better than a toy, and it may even be regarded as a dangerous instrument, because of the inevitable mistakes which the novice will make if he undertakes to decide questions of diagnosis by the use of high-power oil-immersion objectives without having had the necessary training for such delicate work. In blood examinations, especially, considerable experience is necessary in order to give value to the evidence afforded by a microscopical investigation. It is a very easy thing for the non-expert to overlook the malarial parasite, and still easier to mistake vacuoles in the corpuscles, deformed red corpuscles, etc., for parasitic elements. But the scientific physician will make himself an expert, and I trust the time is not far distant when the microscope will be considered by the practising physician as essential for daily use as the stethoscope or even the clinical thermometer.

For the illiterate and even for many of the so-called educated class the whole of medicine consists in the cure of disease by medicines or by some agency, natural or supernatural, and a failure to cure is evidence that medicine is not a science. We readily admit that the cure of disease is one of the principal objects which medical science has in view, and that from a scientific standpoint therapeutics is very much behind some of the other branches of medicine. This is shown by the diversity of remedies prescribed for certain diseases, and the failure of any one of these remedies to effect a cure in many cases. But, on the other hand, therapeutics has made great advances during recent years, and, by the application of scientific methods of research, the exact value of alleged remedies and of various methods of treatment is now determined with far greater precision than formerly.

A few years ago the intelligent and honest physician did not profess to have any considerable number of specific remedies at his command; but his scientific knowledge relating to the causes, symptoms, and pathology of disease enabled him to conduct many cases to a successful termination which without his assistance would have proved fatal. By the use of instruments of precision and scientific methods of investigation he was able to make an early diagnosis and to give advice which might stay the progress of a disease which in its more advanced stages it would have been beyond his skill to arrest.

Recently several additions have been made to the list of specific therapeutic agents, and there is good reason to believe that further discoveries in this direction will be made as a result of investigations now being conducted in pathological laboratories in various parts of the world. Among the most important recent discoveries in this department of scientific medicine I may mention the use of thyreoid extract for the cure of myxœdema, and the antitoxine of diphtheria. The discovery of the diphtheria antitoxine promises to be as important for therapeutics as the discovery of the anthrax bacillus was for ætiology, and will no doubt henceforth be regarded as one of the most notable achievements of the century. It resulted directly from laboratory experiments relating to the production of immunity. The demonstration of Pasteur that animals could be rendered immune against anthrax and other infectious diseases by one or more inoculations with an attenuated culture of the pathogenic bacillus to which they were due at once led to an attempt to explain this immunity and to numerous experimental investigations having this object in view. The result of these investigations was the discovery that the blood of animals rendered immune by such inoculations contained specific antitoxines which might be utilized for the production of immunity in other susceptible animals and also, in certain cases, for the cure of an infectious disease. While the practical results have been most notable in the case of diphtheria, some success has been attained in the specific treatment of tetanus, streptococcus infection, pneumonia, and even tuberculosis. These results give encouragement to the hope that future investigations may develop methods of obtaining these antitoxic substances in such form and amount as will enable us to successfully use them in the treatment of those infectious diseases for which we have not heretofore had a specific remedy.

A recent discovery of considerable importance from several points of view is the so-called Widal reaction. This depends upon the fact, already demonstrated for several pathogenic bacteria, that during the progress and, within certain limits, after the termination, of a specific infectious disease due to a micro-organism of this class, a substance is formed in the blood which has a specific action upon the particular bacterium which is concerned in the ætiology of the disease. The reaction consists in the agglutination of the bacterial cells in groups or masses and in the arrest of motion in motile bacteria in recent cultures. The diagnostic value of this reaction in typhoid fever is well established, but the reaction is not always obtained during the first days of an attack, when it would be most useful. However, the scientific value of the test is undoubted and it will be of great assistance in determining the true character of atypical cases of the disease, which have heretofore so often been called by some other name. The importance of this reaction for the distinction of pathogenic bacteria which can not readily be distinguished by their morphology and cultural characteristics is apparent. Therapeutics has profited greatly, not only by the scientific researches of chemists and bacteriologists, but also by those of the physiologists and physiological chemists. Investigations relating to the internal secretions of ductless glands have shown the essential rôle which some of these glands play in the animal economy and also the fact that pathological changes resulting from their impaired functional activity may be relieved by the administration of extracts from corresponding glands taken from the lower animals.

The curative action of thyreoid extract in myxœdema is well established, and some success appears to have been attained in the treatment of Addison's disease by an extract from the suprarenal bodies. The active substance in the thyreoid has been called iodothyrin. According to Professor Chittenden, this substance is "a non-proteid cleavage product of a more complex body, naturally present in the gland and characterized by containing both iodine and phosphorus." He considers it pretty thoroughly established that iodothyrin "possesses all the peculiarities associated with thyreoid therapy."

Abel and Crawford have succeeded in obtaining the active alkaloidal substance from the suprarenal bodies in the form of a sulphate. This in very small quantities causes a remarkable rise in blood pressure when injected into animals, and, applied locally, it promptly causes a constriction of the vessels of an inflamed eye.

Let us turn for a moment from therapeutics to prophylaxis. Here the progress of medical science has been even more prolific in practical results. Where thousands have been saved by the timely administration of suitable medicines, or by the skillfully performed operation of the surgeon, tens of thousands have been saved by preventive medicine. And preventive medicine is to-day established upon a strictly scientific foundation. If our practice was *pari passu* with our knowledge, infectious diseases should be almost unknown in civilized countries, and those degenerative changes of vital organs which result from excesses of various kinds would cease to play a leading part in our mortuary statistics. But, while our knowledge is still incomplete in some directions, and while individuals and communities constantly fail to act in accordance with the well-established laws of health and the scientific data which furnish the basis of preventive medicine, the saving of life directly traceable to this knowledge is enormous.

Small-pox no longer claims its victims in any considerable numbers except in communities where vaccination is neglected; cholera has been excluded from our country during the last two widespread epidemics in Europe and its ravages have been greatly restricted in all civilized countries into which it has been introduced; the deadly plague of the seventeenth and eighteenth centuries is no longer known in Europe; and the prevalence of typhus (so-called "spotted" or "ship fever") has been greatly limited. Typhoid fever, tuberculosis, and diphtheria are still with us and claim numerous victims, but we know the specific cause of each of these diseases; we know where to find the bacteria which cause them and the channels by which they gain access to the human body, and we know how to destroy them by the use of disinfecting agents.

The mortality from tuberculosis is constantly diminishing in our large cities, and the complete destruction of the infectious sputa of those suffering from pulmonary tuberculosis would, no doubt, go a long way toward the extermination of this fatal disease.

For a long time vaccination as a means of preventing small-pox stood as a solitary example of prophylaxis by inoculation with an attenuated virus. But Pasteur and others following in his footsteps have shown us that protective inoculation may be successfully practised in several of the infectious diseases of the lower animals. Haffkine's cholera inoculations appear to have been attended with considerable success, and recent experiments in inoculating susceptible persons with cultures of the typhoid bacillus give some encouragement to the belief that they may be rendered immune against typhoid fever by this method. That children may be rendered immune against diphtheria by comparatively small doses of the antitoxine is well established. The value of Pasteur's method of inoculation for the prevention of hydrophobia in persons bitten by rabid animals is now generally recognized by well-informed physicians.

The time at my disposal is entirely inadequate for the purpose of setting forth the present status of scientific medicine, but I trust that enough has been said to justify the statement that we are not "old-school doctors," and to show that medicine has not been behind other branches of science in taking advantage of improved methods of research and in establishing itself upon the sound basis of facts demonstrated by experiment and observation with instruments of precision.

What has been said will also show that there is no room for creeds and "pathics" in medicine, any more than in astronomy, geology, or botany. Every man is entitled to his own opinion upon any unsettled problem, but if he entertains an opinion in conflict with ascertained facts he simply shows his ignorance. There is no restriction placed upon any physician who graduates from our regular schools as to the mode of treatment he should pursue in any given case. If he sees fit to prescribe a bread pill or a hundredth trituration of carbo vegetabilis, there is no professional rule of ethics to prevent him from doing so. But if his patient dies from diphtheria because of his failure to administer a proper remedy, or if he recklessly infects a wound with dirty fingers or instruments, or transfers pathogenic streptococci from a case of phlegmonous erysipelas to the interior of the uterus of a puerperal woman, it would appear that the courts should have something to say as to his fitness to practise medicine. There is, however, nothing in the code of ethics which will prevent him from associating with reputable practitioners. But, no matter where or when he obtained his medical degree, he can scarcely be said to belong to the modern school of scientific medicine. We must not fail to recognize, however, that the progress of knowledge has been so rapid that it is impossible for the busy practitioner to keep pace with it, and that even the requirement now generally adopted by our leading medical schools, for a four years' course of study, is inadequate for the attainment of such a degree of professional knowledge and practical skill in diagnosis and therapeutics as is desirable for one who intends to practise scientific medicine.

American Association of Genito-urinary Surgeons.—At the meeting of this association, held at Cranston's Hotel, West Point, June 7 and 8, 1898, the following officers were elected for the ensuing year: President, Dr. James Bell, of Montreal; vice-president, Dr. Samuel Alexander, of New York; secretary and treasurer, Dr. William K. Otis, of New York. It was decided to hold the next meeting at the Clifton House, Niagara Falls, in May, 1899.

Rare Case of Folie à Deux.—Dr. Hamilton Marr (*Edinburgh Medical Journal,* June) records an interesting case of this psychic disorder communicated from husband to wife. The husband was a Scotchman living in Hamilton, Canada, and after a visit to Ontario he came back possessed with the idea that murders were taking place in the houses around him, and subsequently that his life and that of his wife were being compassed. He kept this to himself, till his wife heard also people planning to murder them both. While such coincident insanity exists not infrequently in blood relatives, Dr. Marr states that it is rare between people where no blood relationship exists.

Chloroform as an Anthelminthic.—Dr. Carratu (*Giornale medicale del regio esercito,* an. 45) records the successful employment in seven cases of from forty-five to sixty drops of pure chloroform in syrup in four divided doses every two hours for tapeworm. It is preceded by two days' mild diet, and followed by a dose of castor oil. The treatment is credited to an American writer of 1888.

Spermin in Diabetes.—Dr. A. Telnichin (*Vratch,* xix, No. 11, p. 333; *Gaillard's Medical Journal,* June) reports his own personal experience in the subcutaneous injection of spermatic fluid on himself in traumatic diabetes, under the direction of his physician Dr. Litkin. The spermatic fluid employed was prepared personally by the author and Dr. Litkin from the testicles of bulls and dogs.

The Infectious Period of Scarlet Fever.—In some Remarks on Scarlet Fever, Dr. J. W. Washbourn, a prominent bacteriologist of London (*Clinical Journal,* June 1st), says: There is a general belief that the skin contains the virus, and it has indeed been stated that the patient is most infectious during the stage of desquamation. This latter statement is, however, incorrect, for there is evidence that patients are more infectious during the early stages than at a later period. While in some cases patients remain infectious for some time after desquamation has ceased, in many they are quite free from infectiousness during desquamation.

The Wood of the Yucca Palm as a Splint Material.—Not the least interesting among the products shown at the exhibition held in connection with the recent meeting of the American Medical Association in Denver were samples of splint material consisting of thick veneers cut from the yucca palm of southern California. Being a palm, the tree is, of course, free from knots. Its wood has the stiffness of pine, and it has the peculiarity that, when wet, it may be molded to any shape, which shape it will retain on drying. We learn that these splints may be obtained of Messrs. George Tiemann & Co., New York.

More Evidence in the "Non-combatant" Question.—Fresh but sad evidence comes to hand, according to the daily press of June 13th, of the correctness of our position that it is absurd to stigmatize army medical officers as non-combatants. Assistant Surgeon John Blair Gibbs, late of New York, is reported as killed in action off Guantanamo, Cuba, on the morning of June 12th—the only officer, it would seem, who met that fate.

Original Communications.

A CONTRIBUTION TO THE STUDY OF MELANCHOLIA,

WITH A TABLE SHOWING THE RESULTS OF AN EXAMINATION OF THE BLOOD IN FIFTY-SEVEN CASES.

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In a recent number of the *Journal of Nervous and Mental Diseases* there was published an article by Dr. S. Weir Mitchell entitled An Analysis of Three Thousand Cases of Melancholia.

In the presence of statistics so extensive of this form of mental disease, it would seem that an analysis of fifty-seven cases should be begun with an apology; and it would be so were it not for the fact that the line of investigation reported here has only recently received attention, and the period in the disease which this paper covers is one in which it has received little or no study, for reasons which will be obvious when it is stated that this report comprises the examinations of the blood in cases which were nearly all in the earlier manifestations of the trouble, while those usually made the subjects of statistical study are from the chronic and advanced patients who have already found their way into the various asylums and hospitals for mental disease.

Let us look at one or two of these poor sufferers. A woman, about middle age, muddy complexion (nothing will describe it better), thin, wrinkled skin, with an appearance of age much beyond her years, a look of stolid indifference, or, more likely, a look of hopelessness and perfect abandon.

The patient will not talk unless forced to do so in answer to questions, and then will answer in the shortest possible way, using monosyllables, or entirely refusing to answer questions regarding her health. Possibly the patient has been a religious woman, whose good works have made "many rise up and call her blessed," but we will find that in her own estimation she is not worthy to associate with good people, and feels that she is so wicked that she has no hope in this life or in the future; in fact, has committed the unpardonable sin. She will sit by the hour absorbed in her own miserable thoughts, and nothing that can be done or said will be able to divert her from her wretchedness.

She may be in comfortable circumstances, but she only sees the poorhouse before her; and, besides, to make her misery complete, she may have delusions of swift retribution coming in punishment for imaginary crimes.

She may sit by the hour where placed, seeming to have no power for automatic movements, or, on the other hand, she may walk with a restlessness which will keep her going almost all the time, even far beyond her strength.

Occasionally, too, we will find our patient not so uncommunicative; in fact, she talks almost incessantly when she can get anybody to listen, and even talks over her troubles to herself when no one is paying attention.

She may court death, as is the case with the suicidal ones, or, on the other hand, she may wish to die, but be so taken up with the fear of death that she is practically not dangerous to herself, and may even be filled with fear least some one will do her damage.

One other class of cases needs a word here—that is, a sort of intermittent melancholia, well illustrated by Case 35 in the accompanying table.

He was a man of sixty-nine years, who had been in an asylum for eighteen months for melancholia with suicidal tendencies some twenty years previous to the attack in which he consulted me. After that time he was well for years, and carried on a successful business, and even when he was brought to me he said he had no reason for depression from business or other standpoints.

When asked what his trouble was, he replied promptly, "I am suffering with melancholia with suicidal tendencies." When, in reply to this, I asked, "You do not seriously contemplate taking your life, do you?" His answer was, "No, not to-night, or I should not have come to you, but to-morrow morning at four o'clock I shall want to take my life, I am sure, and if there was any convenient way open then I am sure I should do it." His physique was rather robust, though he had recently lost some flesh. His urine was scant and acid, often having a deposit of uric acid. Digestion and appetite were good, but sleep was poor. It was after his restless nights, when waking early in the morning, that his most depressed spells would come. His blood showed, as will be seen in the table, hæmoglobin, ninety-five per cent. by the Fleischl machine, and red corpuscles counted 7,040,000 to the cubic millimetre. After three or four weeks' treatment, which consisted mainly of a vegetarian diet, and the drinking of three and a half to four quarts of water daily, his blood had reduced to normal average, or hæmoglobin, eighty-five per cent.; red corpuscles, 5,500,000; and with this change had come such a change in his feelings that he went home, coming occasionally to see me, and in good spirits, for a year or more. After another year had passed he suffered a relapse at his home, during which relapse he committed suicide.

I have not attempted a full classification of the various melancholias, as that is not within the scope of this paper, but simply to review some of the most prominent symptoms and most frequent forms of the disorder.

Every one who is at all familiar with the subject will easily recall the very scant and high-colored urine that is characteristic of melancholia. It is usually free from signs of organic disease, is high in specific gravity, small in quantity, often not exceeding one half or less the normal amount in twenty-four hours, is of a color like tea or coffee, and contains an increased proportion of all the solid or soluble ingredients.

This concentration of the urine is, I think, only significant of a similar concentration of all the fluids of the body.

So far as the concentration of the blood, the source of all the fluids of the body, is concerned, a summary of the subjoined report will be instructive: Highest hæmoglobin estimation, one hundred and thirty-five per cent. (Gowers) or one hundred and twenty per cent. (Fleischl). Lowest hæmoglobin estimation, ninety per cent. (Gowers) or seventy-five per cent. (Fleischl).

The difference in the estimation by the Gowers and Fleischl hæmoglobinometers is deserving of note, as some investigators use one and some the other, and there is a constant difference of fifteen per cent. in the reading. A specimen of blood in which the corpuscle count is about 5,000,000 would show one hundred per cent. on the Gowers instrument and about thirty-five per cent. on the Fleischl instrument.

The highest number of red corpuscles to the cubic millimetre was 8,760,000. The lowest number of red corpuscles to the cubic millimetre, 4,320,000.

The lowest hæmoglobin estimation was in a case where the melancholia was incident to a chronic interstitial nephritis, and should not be regarded as at all characteristic of melancholia.

The lowest number of red corpuscles was in a case of mild melancholia, of a very chronic nature, which had been about the same for nearly two years, and was then nearly recovered.

I am aware that these results do not fully accord with the results of similar work done in some of our State hospitals for the insane, but these examinations were made at a period in the disorder much earlier than is possible in the State hospitals and other asylums, and may be explained by a study of Nature's method of cure in these cases.

Let us begin the study of melancholia where the case first differs from health: Slight depression coming on without any known cause, and gradually increasing, or coming on more rapidly when the patient has been in perfect health, so far as he knows, and brought on apparently by a cause which is entirely insufficient to produce the result in other men.

The first treatment such a patient gets is usually a "jollying" up by his friends, good enough in its way, perhaps a vacation; and if this does not prove efficacious, the patient next has to go through a period in which he is called a crank, scolded, and told that he could shake off the depression if he would do only this or that, and is considered a case of obstinacy or sulks.

As the case progresses the patient becomes less interested in his usual occupation, more depressed, and adds to his distress the feeling that he is too wicked to deserve food, and hence stops eating. For a long time he has lost all appetite, and ceased mainly from taking such exercise as would promote a healthy digestion and assimilation. His flesh has dwindled away, his skin become brown, and, in fact, he has come to conform to the description in the first part of this paper. He is now, if not before, sent to some asylum, for his disease has gone so far that he has become a menace to himself.

He has taken tonics and medicines galore, but his once strong physique has wasted to a shadow of its former self. In endeavoring to sustain mere animal life Nature has used nearly every available ounce of tissue. He has drank little fluid, but this little is more than he has eaten, and with his wasting has come a thinning of the blood, and, to a large extent, a clearing of his system of the surplus of worn-out material which has been poisoning his brain.

With no medicine and no treatment some of these cases at this point begin to improve, sleep better, eat better, take more exercise and more interest in things; in fact, retrace their steps until they have returned to the flesh and health they once had. All observers agree that a large proportion of the asylum cases recover, and I think the main feature in the treatment in such institutions is the *feeding*, sometimes forced, with liquid food.

The only study of the blood in melancholia to which I have had access is one by Dr. Whitmore Steele in the *American Journal of Insanity*, and the conclusion is reached, from a study of thirty-five cases, that he regards all persons suffering from this disorder to be deficient in both hæmoglobin and hæmacytes, and advises as the most effective treatment either iron alone or in combination with quinine and strychnine. He also notes something else, with which I can quite fully agree—that is, that "improvement in the mental symptoms is coincident with improvement in the general health."

In the accompanying study of the blood in fifty-seven cases of melancholia it would appear that the blood was deficient neither in hæmoglobin nor in hæmacytes at the initial or early stage of the disorder, but, on the contrary, was always found to be above the average in these particulars. That after the loss of appetite, always present, and the frequent entire refusal to take food, and the impaired digestive power associated with such a mental condition, the blood first loses its richness in coloring matter, and later in the corpuscular elements.

During this time, of course, Nature is using up all available nutrient material, and is also gradually excreting the effete materials which we are led to believe have been retained in the system, until the blood, which was rich in nutrient material, and even richer in excrementitious substances, is purged of its surplus in both directions.

It is a circumstance worthy of note that while many people with thick blood are melancholy, as this report shows, I have never chanced to see any real signs of melancholia in the profoundly anæmic cases which have come under my care.

This starving and purging of the blood may go on until the blood has become below the normal average in nutrient elements, before the excrement, which is poisoning the system, is so far eliminated that the nervous system can be freed from the intoxicating effect of this poison. At this point the forced fluid diet is most ad-

Table of Melancholia Cases with Blood Examinations, 1893–'97.

CASE.	Date.	Hæmoglobin, per cent.	Red corpuscles to the cubic millimetre.	Remarks.
1. Miss V. L.	January 21, 1893	116, G.	5,920,000	Recovered; no further examination.
2. Mrs. D.	July 8, 1893	118, G.	6,440,000	
	July 27, 1893	105, G.	5,480,000	Recovered and returned home.
3. Mrs. W.	January 15, 1894	116, G.	6,440,000	Consultation; result unknown.
4. Miss A. P.	February 22, 1894	116, G.	5,720,000	Recovery; no further examination.
5. Mrs. F.	March 29, 1894	116, G.	6,100,000	Soon went from observation.
6. Miss E. W.	April 19, 1894	115, G.	5,160,000	
	June 23, 1894	108, G.	4,460,000	
	November 5, 1894	100, G.	5,340,000	Greatly improved; went home.
7. Mrs. F. V.	April 17, 1894	120, G.	6,440,000	Recovery; no further examination.
8. Miss E. M.	August 1, 1894	125, G.	6,000,000	Recovery; no further examination.
9. Mrs. J. A.	October 22, 1894	110, G.	5,620,000	Acute conditions required sending her to an asylum. Recovered.
10. Miss R.	October 25, 1894	112, G.	7,100,000	Consultation; chronic case.
11. Dr. A.	November 6, 1894	105, G.	5,320,000	Had practically recovered when examined. Consultation.
12. Miss V. L.	November 22, 1894	105, G.	4,560,000	Case 1, relapsed. Recovered.
13. Rev. W. D.	November 23, 1894	110, F.	5,540,000	Improved considerably, then went out of my immediate supervision, family refusing to take him to an asylum. Suicided, October, 1895.
	February 1, 1895	105, F.	5,920,000	
	March 2, 1895	100, F.	5,780,000	
14. Miss V. K.	December 3, 1894	105, G.	6,760,000	Marked gouty case; improved.
15. Miss E. C.	December 16, 1894	100, F.	5,960,000	Left February 2d, returning on March 5th. Improved, but no further examination was made. Note difference in Gowers and Fleischl.
	February 2, 1895	100, F.	5,420,000	
Returned	March 6, 1895	120, G.	6,440,000	
		105, F.	6,440,000	
16. Mr. A. R.	January 12, 1895	135, G.	7,220,000	
	February 28, 1895	100, F.	5,940,000	
	March 29, 1895	90, F.	5,960,000	Recovered; no relapse since.
17. Mr. P. K.	February 20, 1895	125, G.	5,780,000	
		110, F.	5,780,000	Recovered.
18. Mr. A. G.	March 8, 1895	110, G.		
		95, F.	5,380,000	Improved; ultimate recovery.
19. Miss M. S.	March 21, 1895	120, G.		
		105, F.	5,020,000	Recovery.
20. Mrs. E. W. R.	April 1, 1895	100, F.	6,820,000	
	April 18, 1895	85, F.	6,080,000	Improved and ultimately recovered.
21. Miss L. H.	April 11, 1895	80, F.	4,660,000	Chronic. Left soon; consultation.
22. Mrs. J. S.	April 26, 1895	100, F.	6,140,000	Grew worse; sent to asylum.
23. Mr. J. W. W.	May 11, 1895	95, F.	6,760,000	
	June 17, 1895	85, F.	4,800,000	Recovered; well at present.
24. Miss A. C.	May 13, 1895	85, F.	5,600,000	Recovery; no further examination.
25. Miss E.	July 5, 1895	100, F.	6,760,000	Consultation; result unknown.
26. Mr. W. M.	September 20, 1895	100, F.	6,520,000	
	October 14, 1895	90, F.	6,640,000	Recovery.
27. Mrs. C. E.	September 27, 1895	100, F.	5,780,000	
	January 11, 1896	87, F.	6,020,000	Chronic case. Recovered.
28. Mrs. H. F.	October 5, 1895	90, F.	6,260,000	Chronic case with delusions. Went home improved, and ultimately recovered.
	March 17, 1896	90, F.	6,920,000	
29. Miss M. G.	October 5, 1895	90, F.	6,880,000	Chronic case. Agitated type. Improved and went home.
	December 26, 1895	85, F.	4,760,000	
30. Mr. K. D.	October 26, 1895	95, F.	6,280,000	Was improving at this time.
	March 26, 1896	95, F.	6,260,000	Left, much improved.
31. Mr. C. H. H.	October 29, 1895	75, F.	6,520,000	Chronic Bright's case. No improvement. Died from cerebral hæmorrhage, January 16, 1896.
	December 19, 1895	86, F.		
32. Mr. J. C. D.	November 30, 1895	87, F.	6,760,000	Was improving at this time, and continued till he recovered.
33. Mrs. W. N.	December 3, 1895	90, F.	7,320,000	Menopause; night vigils.
	January 10, 1896	88, F.	7,140,000	
	February 1, 1896	86, F.	5,030,000	Recovered.
34. Mr. W. B. D.	December 5, 1895	100, F.	7,740,000	Rapid improvement.
	January 6, 1896	90, F.	6,700,000	Went home. Is still well.
35. Mr. W. K.	December 17, 1895	95, F.	7,040,000	Suicidal; relapsing type.
	January 10, 1896	85, F.	5,500,000	Improved; went home. After more than a year, relapsed, and suicided in 1897.
36. Mr. S. W.	December 17, 1895	100, F.	7,660,000	Developed on a neurasthenia; improved, went away, but remained still neurasthenic.
	January 22, 1896	90, F.	6,580,000	
	April 2, 1896	90, F.	5,680,000	
37. Mrs. L. W.	December 19, 1895	85, F.	5,180,000	Attempted suicide; recovered. No further examination.
38. Mr. W. M.	December 30, 1895	85, F.	5,660,000	Chronic; specific history; improved. No further examination.
39. Mr. S. H.	January 1, 1896	95, F.	6,120,000	Sent to an asylum.
40. Miss B. C.	January 13, 1896	83, F.	6,020,000	Recovered.
41. Miss A. C. S.	January 21, 1896	93, F.	5,820,000	Chronic. Recovered.
42. Mr. R. M.	February 9, 1896	118, G.	6,480,000	
		107, G.		
	March 11, 1896	92, F.	5,250,000	Recovered.
43. Mr. W. F.	February 17, 1896	128, G.	8,760,000	Suicidal.
	March 18, 1896	120, G.	6,780,000	Sent to an asylum.
44. Mr. A.	February 20, 1896	120, F.	7,520,000	
	March 19, 1896	85, F.	5,100,000	Recovered.

Table of Melancholia Cases (continued).

CASE.	Date.	Hæmoglobin, per cent.	Red corpuscles to the cubic millimetre.	Remarks.
45. Mr. J. S.	February 21, 1896	128, G.	8,600,000	Consultation.
46. Mrs. H. R. B.	March 4, 1896	100, F.	5,780,000	
	July 3, 1896	80, F.	4,920,000	Recovered, and is still well.
47. Rev. Dr F.	March 16, 1896	118, G.	5,740,000	Consultation.
48. Mrs. S. A	August 3, 1896	85, F.	6,000,000	
	October 17, 1896	85, F.	5,440,000	Improved.
49. Mr. S. A. L.	September 12, 1896	90, F.	5,222,000	
	October 12, 1896	90, F.	5,600,000	Left, improved. Returned with relapse. Recovered.
	May 25, 1897	100, F.	5,600,000	
50. Mr. W. C.	March 15, 1897	105, F.	6,240,000	
	April 29, 1897	95, F.	5,760,000	Recovered.
51. Miss M. D.	March 17, 1897	80, F.	6,000,000	Chronic; came to me from an asylum; weight, eighty-six pounds. Left, recovered, weighing one hundred and seventeen pounds.
52. Mrs. B.	March 20, 1897	95, F.	5,600,000	Melancholia with delusions. Recovered.
53. Mrs. R. A. K.	May 8, 1897	80, F.	4,320,000	Mild, chronic. Recovered.
54. Miss E. B	June 1, 1897	92, F.	5,280,000	Suicidal; sent to an asylum.
55. Mr. W. B.	June 4, 1897	105, F.	6,240,000	Early stage.
	July 2, 1897	95, F.	5,500,000	Recovered.
56. Rev. P. K. H	July 9, 1897	100, F.	5,920,000	Recovered; no further examination.
57. Mrs. B. J. W.	November 25, 1897	100, F.		Would not submit to further examination at this time.
	December 7, 1897	95, F.	5,440,000	Improved.

"G." indicates that the Gowers hæmoglobinometer was used, and "F." that the Fleischl hæmoglobinometer was used in making the tests thus marked.

vantageous, as it supplies both nourishment and fluid for purposes of elimination.

This is the best explanation of the facts that have come under my notice, which would otherwise seem contradictory, and leads up to what I wish to offer, not as a new theory of the causation of the trouble under consideration, but as contributory evidence from another source in support of the theory, and a suggestion as to the rational treatment of this trouble in its first stages by paying more attention to the *elimination* and less to the administration of either tonics, stimulants, or sedatives, all of which may be good in their way, and even necessary at times, but which at the best are only adding more poison to an already poisoned system.

The rational treatment indicated in these cases would be to take a careful inventory of the patient's condition, including an examination of the blood and urine, as well as the usual physical examination.

Then promote elimination by every possible avenue—bowels, kidneys, and skin—not forgetting that *water* is "Nature's solvent," and the most powerful aid in cleansing the system, and exercise its strongest ally.

Next, feed the patient such a variety and quantity of food as the examinations already made indicate as the requirement of the body, remembering that a careless prescription of food in these cases is as harmful as a careless prescription of medicines, and either too much, too little, or a quality unsuited to the patient may do harm.

Lastly, give such medicines as may be needed to secure proper sleep and the necessary elimination, which the dietary and hygienic methods noted seem inefficient in securing.

The results of treatment of such cases as were under observation long enough to make any satisfactory report were sufficiently good to commend the method indicated, and may be summed up as follows: In forty-five only of the fifty-seven here enumerated the patients stayed under observation for a prolonged period, and of that number thirty-five recovered, eight were improved, and two only were unimproved. The longest period during which any patient was under treatment was about seven months.

A single case, No. 47 in the table accompanying this report, will serve as an illustration:

Mrs. H. R. B., a widow, fifty-two years of age, came under my care on March 4, 1896. She was not very thin, though she had lost some flesh since she began to run down. Diagnosis was confirmed by a noted specialist. Melancholia began a year before she was sent to me. General characteristics conform to the description in the early part of this paper. Blood examination at the time of admission: Hæmoglobin, one hundred per cent. (Fleischl); red corpuscles, 5,780,000 to the cubic millimetre.

Treatment directed was a diet mainly of milk and vegetable food, and phosphate of sodium, fifteen grains in a glass of hot water, before each regular meal time, and two quarts of water to be drank during each day. Improvement was gradual but continuous, till she was quite recovered, and went home on July 5, 1896. At that time her blood examination showed as follows: Hæmoglobin, eighty per cent. (Fleischl); red corpuscles, 4,920,000 per cubic millimetre. She came to see me in May, 1897, to show me how well she was, and up to the present reports still come of her continued good health.

This case, though briefly described, seems a fair example of what I wish to bring out, both as to conditions and as to the method of rectifying these conditions.

MYCOSIS PHARYNGIS LEPTOTHRICIA.

By MAX TOEPLITZ, M. D.

Benign mycotic affections of the oral and pharyngeal cavities have been well studied under the microscope. They are classified as follows: Thrush, caused by *Oidium albicans,* nigrities linguæ (black tongue), mycosis sarcinica and aspergillina, and mycosis due to yeast and leptothrix.

In nigrities linguæ the tongue is covered with black deposits, which are cast off as readily as they reform. Dessois (1) believes it to be caused by glossophyton. Sell (2) and Dahl could not place the parasite among any class. Klebs calls it *Penicillium microscoporium.* Schmiegelow's (3) black fungi are hyphomycetes, not identical with those of Ciaglinsky and Hewelke (4), consisting of *Mucor niger,* and of Sendziak (5), resembling aspergilli.

Mycosis sarcinica was first described in 1846 by Virchow (6), and later by Nauwerk (7) and Fischer (8). Mycosis aspergillina, comparatively frequent in the external auditory meatus, is exceedingly rare in the throat. Schubert (9) has given an interesting account of its occurrence in the nasopharynx. Siebenmann (10) found there *Aspergillus fumigatus* and *nidulans,* and *Mucor corymbifer.* John N. Mackenzie (11) and Zarniko (12) found aspergillus in the antrum of Highmore.

Mycosis of the tongue produced *by yeast* has been observed in a newborn girl by Parak (13), later by Troisier (14) and Acharme (14) after typhoid fever, and lately by J. Herzfeld (15), in one case after influenza-pneumonia, and in another in a girl aged twenty years.

Mycosis leptothricia presents two forms—a diffuse and a circumscribed form. In the diffuse formation, which was first exactly described by von Ubisch (16), the tongue is found to be uniformly coated with a continuous, milky, glistening mass, which completely covers the filiform and fungiform papillæ. The base and lower surface of the tongue thereby appear almost entirely level. The general condition of von Ubisch's patient was satisfactory and the functions of the digestive apparatus, particularly the sensation of taste, were well preserved. The deposits had been formed by masses of the leptothrix fungus.

The second, circumscribed, form was first described in 1873 by B. Fränkel (17) under the name of mycosis pharyngis leptothricia benigna.

The following cases of my own observation may serve as illustrations of the affection:

Case I.—Th. F., painter, aged thirty-one years, always healthy, noticed in October, 1885, while smoking his pipe, an unpleasant sensation of roughness, with continuous scratching and "a constant irritation" and desire for hawking, followed by mucous discharge. He was then treated by a physician with local applications for pharyngo-laryngitis and a small wart of the left tonsil, but without the least relief. During March, 1886, he was seized with an acute febrile affection, characterized by swelling of the face and impossibility of opening the eyes, which lasted a week. In May, 1886, the patient first presented himself to the writer. The examination of the tonsils and base of the tongue established the diagnosis of pharyngitis leptothricia beyond any doubt, and it was fully confirmed by the microscope.

The affection exhibited the following picture: There was seen upon the left tonsil a firmly adhesive excrescence, about half a centimetre long, of grayish-white color, which could be best compared with "pointed condylomata." In the recess between the tonsil and posterior pillar, additional loose, granular, white masses were detected. At the deepest lower portion of the posterior pillar and at the papillæ circumvallatæ and fungiformes there were pointed, firmly adhesive prominences, about ten in number, glistening white, almost spherical, sharply defined deposits of from three to five millimetres in diameter, which could not be removed but with some force.

The patient, an extreme hypochondriac, was quite depressed, owing to the long duration of his affection and the continuous disturbance connected with it. His appetite decreased more and more, so as to render him much thinner and to make him believe himself to be consumptive. He completely recovered after treatment of six weeks' duration.

Case II.—S. C., aged nineteen years, a well-developed girl of healthy appearance, had been since June, 1885, under my care for an aural affection, which, when exacerbated a year later, brought her back to me. In completing her examination by the inspection of the pharynx, the characteristic white masses were discovered in the crypts of the faucial tonsils. The base of the tongue had not as yet been implicated. During the following weeks I observed the white spots to extend beyond the posterior pillar over the lingual base. At the height of the disease six roundish white excrescences could here be seen. The patient was not thereby annoyed, and her attention would not have been aroused were it not through my repeated demonstrations at the clinic. In spite of my assurances of the harmless nature of the spots, she grew nervous, considered them to be diphtheritic, and treated herself at home with the favorite "iron and chlorate of potassium mixture." However, when the spots, despite her strenuous efforts, did not disappear, she returned, and was soon cured of her "sufferings."

I could enumerate dozens of cases which I have observed during the last twelve years. Suffice it to mention that of

Case III.—F. H. W., aged thirty-five years, evangelist, born of an Indian father and English mother, was sent to me by Dr. St. for a mysterious affection of the pharynx, which offered the picture of an extreme case of mycosis pharyngis leptothricia. The numerous prominences of white color resembled in form a sod.

Owing to quite advanced phthisis pulmonum, the galvano-cautery of the pharynx, which induced a hæmorrhage from the lungs, had to be abandoned.

I may here mention that I have observed lately two typical cases of mycosis pharyngis leptothricia upon both faucial tonsils of two brothers aged sixteen and eighteen years respectively.

Wright has seen the mycosis in two sisters, fourteen and fifteen years of age.

All these cases represent the affection first described by B. Fränkel (17) as pharyngitis leptothricia. However, the publication of Th. Heryng (19), upon which the following description is based, made the affection more generally known:

"Pharyngeal mycosis is an affection of the faucial tonsils and the lingual base, characterized by the appearance of whitish or yellowish-gray, soft, sometimes horny, frequently pedunculated nodules or thorny excrescences. They are located in the crypts of the tonsils or rarely upon the mucous membrane, the pillars, posterior, and lateral pharyngeal wall, for quite some distance downward."

The epiglottis (20) is in rare instances studded with craterlike deposits of the fungi, which occasionally migrate into the larynx (21 and 22). In one case, Wright (18) and Dunn (23) have located them in the nasopharynx upon the pharyngeal tonsil.

"Upon the lingual base the nodules, almost without exception, originate from the papillæ circumvallatæ and the follicular glands, and form threads or bundles of from two to eight millimetres in length and two millimetres in thickness. They are remarkable for their extreme stability, and their rapid recurrence after removal causes, as a rule, but slight local disturbance and does not usually produce any inflammatory reaction in the affected parts. In rare instances of severer course, with considerable extent of the disease, disturbances of general health have been noted, apart from local complaints."

The affection is always found upon the tonsils, in many cases upon the tonsils and lingual base. The left tonsil is also in my own cases, perhaps accidentally, by far most frequently affected.

The disease appears to be more frequent in women than in men. It occurs with predilection between the twenty-eighth and thirty-fifth years, and has also been observed between the twelfth and sixty-second years of age.

Although the affection has been known since 1873, up to 1886, at the time of my first publication (24) upon this subject, comparatively few cases had been reported, but since then up to date the publications have been quite numerous.

For diagnosis, diphtheria, acute follicular tonsillitis, chronic follicular tonsillitis, or tonsillar concretions are to be considered.

The tonsillar mycosis is distinguished from diphtheritis by the absence of inflammatory symptoms, its course without fever, the discrete, non-confluent appearance of the foci, and the implications of the lingual base.

The febrile symptoms, brittleness, and easy removal of the masses sharply define acute follicular tonsillitis from tonsillar mycosis.

Mycotic masses might be rather taken for concretions in the tonsils, "which form either hard, calcareous, or, in fresh cases, rather mortarlike white or gray masses, which are either from time to time expectorated, or, when remaining for a time, lead to inflammatory reaction, or in some instances, to abscesses. They are readily removed by pressure with the probe. They consist of epithelial scales, cholesterin crystals, bacteria, and, according to B. Fränkel (17), occasionally also of leptothrix threads.

The latter picture is identical with that of chronic follicular tonsillitis, which has been of late mentioned in a number of publications, and which gives as an especial feature the collection of the masses in the upper angle of the pillars around and behind the upper portion of the tonsil. When it appears as a small isolated structure it is called "velar" tonsil. The masses are not detected until the anterior pillar is pulled forward by a hook.

I may here emphasize a fact which is important for the ætiology of the affection, that the mycosis leptothricia readily follows an acute follicular tonsillitis or diphtheria. After cessation of the febrile phenomena the white spots remain and may lead to the supposition that the diphtheria or acute follicular tonsillitis has not been entirely cured.

Mycosis leptothricia had been frequently observed but not properly interpreted before B. Fränkel's (17) first publication. Morell Mackenzie describes it in his text-book as "follicular exudative pharyngitis" and Stoerk as "seborrhœa of the follicular glands of the laryngeal and pharyngeal mucous membrane."

The most remarkable interpretations to which pharyngitis leptothricia may lead have been made in the case of Dr. D., fully described by Heryng (19). D.'s affection began in 1874 with afebrile angina followed by several exacerbations. In January, 1895, D. noticed numerous deposits upon the tonsils and lingual base. His general health became impaired with decrease of strength, loss of appetite, difficulty of deglutition, sensation of dryness and irritation in the throat. All remedies failed, whereby the patient became depressed and was considered to be tuberculous, although the pulmonary examination had a negative result. The movements of the tongue and the speech became difficult.

In May, 1875, Professor Biesiadecki, of Krakow, diagnosticated, on account of iodine reaction of the removed portion, amyloid degeneration of the mucous glands. Stoerk presented D. before the Vienna Medical Society as a peculiar case. He declared the deposits to be calcareous concretions. The masses returned on the day following their removal. Rokitansky classified the affection among the atheromata, probably those of the skin. Klebs (25) was the first to find that the masses consisted of *Leptothrix buccalis.*

Dr. D. then employed a popular remedy against vegetable parasites—viz., nicotine—folia nicotiana (in the form of cigars used frequently and "with delight"), and after two months he was permanently cured.

The bibliography upon the subject up to the beginning of 1884 has been fully collected by Heryng (19). Decker and Seifert (26) had in 1888 collected thirty-five cases, including one of their own observation. In the latter they found microscopically *Leptothrix buccalis* partly in threads, partly in the form of fascicles and sheafs, and also several kinds of cocci, which were all successfully inoculated into man, but could not be obtained in pure cultures. In Eugen Fränkel's (27) case the same fascicular form was observed, but was differently interpreted by Professor Sadebeck, who does not consider it to be leptothrix, but a new fungus, *Bacillus fasciculatus,* the interspersed globules being spores. Helmkampf's (28) proposition to establish a new disease, owing to the "new bacillus," goes entirely too far to be considered seriously.

A complete bibliography upon leptothrix mycosis, comprising all publications up to 1886, is given in my first paper (24). Jacobsohn's article, belonging to this period, is remarkable on account of the potato cultures and exact observations.

In the American literature before 1886 the subject was treated by Tilley (30), Gruening (31), and J. Solis-Cohen (32). After 1886, clinical contributions were given by Van der Poel (33), Newcomb (34), F. G. Knight (35), Hemenway (36), Ingals (37), Dunn (38), and Campbell (39). Jonathan Wright (18) has considered the subject pathologically, and furnished, like Heryng (19), a beautiful illustration of a stained section through an excised tonsil affected by leptothrix mycosis. Gruening (31) was the first to demonstrate in this country that the white deposits upon the tonsils consisted of leptothrix. He examined all his throat patients for this condition, and found fifty cases within three months, and among seven only had the condition extended beyond the pharynx. In consideration of the presence of leptothrix in every oral cavity this result is not surprising, but is without importance. It has no connection with the above-described affection, from which Gruening's cases should be well distinguished. J. Solis-Cohen's (32) case was not due to leptothrix. Schech's (39), J. Solis-Cohen's (40), Bresgen's (41), and Bothworth's (42) accounts of the affection in their text-books are clear and concise. Hemenway (36) finds pharyngo-mycosis in conjunction with other affections of the pharynx in moist, unhealthy surroundings. It is caused by dental caries and cutaneous diseases. The fungi originate from stagnant water. It is a chronic affection with exacerbations and subsequent improvement. The fungus slowly destroys the tissues.

The microscopical examination of leptothrix is made by removal of the masses with forceps, adding a five-per-cent. solution of caustic potash, and placing in glycerin. Pavement epithelia are found interspersed with light-refracting granules, surrounded by a yellowish mass which contains round, light-refracting rods, and at places long threads in bundles, clusters, or sheafs. They are not linked nor branched, but frequently reticulated. By the addition of diluted Lugol's solution, the rods and threads stain intensely blue, and the granular masses slightly bluish. Leber (43) demands the addition of acids (dilute muriatic, acetic, and lactic acid, but not sulphuric acid, on account of the similar reaction upon cellulose), whereupon violet coloration takes place. The specimens stain well with gentian violet and methylene blue. It is remarkable that after staining, the rods and threads are not stained entirely blue, so that equal interspaces are left between the stained and unstained portion which give to the threads a linked appearance. The apparently stained links consist of amylum; they are not spores, as was formerly wrongly assumed. The unstained portions are not to be considered as septa.

Heryng (19) has demonstrated the causal connection between the superficial deposits containing leptothrix threads and the particles deeply seated in the crypts, by means of an examination of the totally extirpated tonsils. He thus found two forms of mycotic disease. In the first, the superficial, firmly adhesive excrescences had a cup-shaped, hemispherical form, consisting of epithelium and a granular mass. In the second form he found cuneiform, triangular cones deeply deposited in the parenchyma, likewise consisting of epithelial scales and a granular mass. The surrounding tissues do not present any inflammatory signs nor leptothrix threads, which are, however, distinctly seen in the crypts of the tonsils.

Dubler (44) has found in an autopsy of a boy, aged eight years, who had died from bilateral broncho-pneumonia, mycotic plugs in the tonsils, lingual base, free margin of the epiglottis, aryepiglottic folds, inner surface of larynx from the epiglottis down to the vocal cords, and at isolated places below them. The leptothrix threads penetrated the uppermost epithelial layer and glandular orifices, but not the deeper layers of the mucous membrane, and the epithelium was at places defective. At the lingual base, leptothrix masses were seen upon and in the epithelial layer. The stratum of connective tissue, the follicles and glands of the mucous membrane were penetrated by network (mycelium) of fine rods and short, thin threads, which do not yield the iodine reaction, but stain blue with Gram's method. This appears to be an independent bacillary invasion.

An entirely different view of the nature of the affection has been recently taken by Siebenmann (45) and his followers, Brown-Kelly (46) and F. Friedland (47). Siebenmann (45) holds that the disease is due to an unusually intense transformation of the lacunar epithelium into horny matter, which is pushed out of the crypts in the form of horny cones. The surrounding parts of the crypts are entirely free from inflammation. The crypt wall does not contain any micro-organisms. Leptothrix threads are found only upon the freely prominent portion of the cone, and they grow here in a purely saprophytic manner as everywhere in the mouth. He proposes, therefore, to substitute for pharyngo-mycosis leptothricia, *hyperkeratosis lacunaris*. Brown-Kelly (46) considers leptothrix mycosis also as keratosis, but a more extensive one than Siebenmann's, which develops, independently from the lacunæ, upon the surface of the mucous membrane. He therefore prefers the designation keratosis to Siebenmann's (45) hyperkeratosis. Apart from this there exists a leptothrix mycosis in the pharynx. Friedland (47) found the keratosis limited to the follicular glands of the tongue and the crypts of the tonsils; the anterior, lateral, and posterior pharyngeal walls were free.

Heryng (19) has inoculated the conjunctiva and dorsal skin of rabbits with leptothrix, but without success. Lebert (43), however, has succeeded in producing severe suppuration by inoculating the cornea.

Leptothrix was first discovered in 1695 by Leuwenhoek and was subsequently, with other fungi of the mouth, investigated by Bühlmann, Henle, Robin, and Hallier. *Leptothrix* and the other parasites of the mouth are considered as harmless guests, or even as useful protectors against the invasion of disturbing agents of fermentation, a view refuted for the formation of lactic acid and for leptothrix.

Leptothrix was formerly classed by some authors among the algæ, by others among schizomycetes, on account of mutual morphological characteristics.

It belongs, according to de Bary, to the schizophytæ, which are separated from the algæ and fungi proper.

Whether leptothrix develops from threads or zooglœa, or increases by halving connected by gelatinous membrane, has not as yet been decided. Many authors do not believe leptothrix to be a species, but a thready condition of different bacilli.

Leber and Rottenstein (48) first proved that leptothrix causes the caries of teeth. The fungus, according to Miller, does not penetrate the intact tooth and does not attack it until the lime salts of the upper layers are diluted by the formation of acids. Miller has also found the leptothrix in the tartar of teeth of Egyptian mummies, Leyden and Jaffé (49) have demonstrated it in pulmonary gangrene, and Foerster (50) found it in the concretions of the lacrymal ducts, which are placed there by the bad habit of many uncivilized mothers of licking the eyes of their children with the tongue. Klebs found that leptothrix, apart from the faculty of dissolving lime salts, possesses that of forming lime incrustations. These chalky deposits originate from the phlegm. Analogous to this formation of concretions the stones of the bladder are formed by the eggs of intestinal worms (*Filaria sanguinis*), as Bilharz has demonstrated in Egypt, where the parasite is introduced into the system by eating unwashed salad.

Cultures.—Rasmussen (51) has developed, by spreading human phlegm of healthy individuals upon potatoes and nutrient gelatin, three different kinds of leptothrix, which he cultivated in sterilized nutrient fluid, whereby he believed himself to have proved the generic connection between bacilli and cocci. Jacobsohn (29) has made successful culture experiments with leptothrix fungi taken from patients affected with the mycosis. Hamilton (52) cultivated two micro-organisms: *Staphylococcus pyogenes albus* and a bacillus forming leptothrix threads. Parser and Tiswell (53) found microscopically that the masses consist of horny epithelial cells, granular detritus, and bacteria. The latter were: (*a*) *Bacillus* (*Leptothrix*) *buccalis maximus*, (*b*) *Leptothrix innominatus* (Miller), (*c*) *Iodococcus* (Miller), (*d*) *Spirochæta dentium*. Upon cultivation, *the Staphylococcus pyogenes albus* and another non-identified coccus were found. All these bacteria are usually found in the mouth, but they were in this case extremely numerous, and many had the thread form.

Treatment.—Many remedies have been recommended for the treatment of mycosis leptothricia. A five-per-cent. solution of carbolic acid, a five-per-cent. solution of aluminum aceticotartaricum, and other chemicals have been used without success. Folia nicotiana, corrosive sublimate (1 to 2,000), and, according to Dunn (23), a saturated solution of permanganate of potassium, have led to recovery. Many cases heal spontaneously. In my own cases, the sharp spoon and the galvano-cautery cured the patients. In cases complicated with stomach disease, the treatment of the latter is advisable.

Bibliography.

1. Dessois. *De la langue noire.* Paris, 1878, and *Gaz. des hôpit.*, No. 28, 1879.
2. Sell. Lingua nigra. Tilfaelde of lingua nigra. *Hospital Tidende,* 1885, p. 87.
3. Schmiegelow. *Arch. f. Laryngol.*, vol. iv, No. 2, 1895.
4. Ciaglinski and O. Hewelke. The So-called Black Tongue. *Monatsschr. f. Ohrenheilk.*, etc., 1894, No. 4.
5. Sendziak. Contribution to Ætiology of Black Tongue. *Monatssch. f. Ohrenheilk.*, etc., 1894, No. 4.
6. Virchow. Virchow's *Archiv,* vol. ix.
7. Nauwerk. *Correspondenzbl. f. schweizer Aerzte,* 1881, No. 8.
8. Fischer. *Deutsch. Arch. f. klin. Med.*, vol. xxxvi, p. 344.
9. Schubert. *Deutsch. Arch. f. klin. Med.*, vol. xxxvi, p. 162.
10. Siebenmann. *Monatsschr. f. Ohrenheilk.*, etc., No. 4, 1889.
11. J. N. Mackenzie. Amer. Laryng. Assoc., New York, May, 1893.
12. Zarniko. *Deutsch. med. Wochenschr.*, No. 44, 1891.
13. Parak. *Journ. de méd. de Paris,* January, 1896.
14. Troisier and Acharme.

15. J. Herzfeld. *Berl. klin. Wochenschr.*, 1897, No. 45, p. 990.
16. Von Ubisch. *Berlin. klin. Woch.*, 1875, No. 52.
17. B. Fränkel. *Berl. klin. Woch.*, 1873, p. 94, and 1880, No. 18.
18. Wright, Jonathan. *New York Medical Journal*, July 6, 1895.
19. Th. Heryng. *Zeitschr. f. klin. Med.*, vol. viii, p. 358.
20. A. Nijkamps. *Weekblad van het Neederlandsch Tijdschrift voor Geneeskunde*, 1886, No. 16.
21. Labit. *Revue de laryng.*, etc., 1893, No. 3.
22. Stoerk's and Mackenzie's text-books.
23. Dunn, J. *New York Medical Journal*, July 28, 1894.
24. Toeplitz, Max. *N. Y. Mediz. Presse*, 1886, December.
25. Klebs. *Arch. f. exper. Path. und Pharm.*, vol. v, p. 358.
26. Decker and Seifert. *Verhandl. der phys. med. Gesellsch. zu Würzburg*, second meeting, 1888.
27. Eugen Fränkel. *Zeitschr. f. klin. Med.*, vol. iv, p. 288.
28. Helmkampf. *Diagnose und Therapie der Erkrankungen des Mundes und des Rachens sowie der Krankheiten der Zähne.* Stuttgart, Enke, 1886, p. 139.
29. A. Jacobsohn. Algosis faucium leptothricia. *Wratsch*, Nos. 27 to 29, and *Intern. Centralbl. f. Laryng.*, edited by Sir F. Semon, vol. ii, October, 1885, p. 161.—Volkmann's *Samml. klin. Vortr.*, No. 317, 1888.
30. B. Tilley. Mycelia from a Tonsil. *Chicago Medical Journal and Examiner*, July, 1885.
31. E. Gruening. *Archives of Laryng.*, edited by Elsberg, vol. iii, No. 2, April, 1882.
32. J. Solis-Cohen. *The Polyclinic*, 1884, March 14, p. 133.
33. S. O. Vanderpoel. Pharyngomycosis. *New York Medical Journal*, February 9, 1889.
34. Newcomb, J. E. Mycosis Leptothricia. *Medical Record*, August 1, 1891.
35. F. G. Knight. Pharyngomycosis. *New York Medical Journal*, December 3, 1892.
36. Hemenway. Pharyngomycosis. *Medical Record*, January 14, 1893.
37. E. Fletcher Ingals. American Laryngological Society, 1894.
38. Campbell, J. T. *Medical News*, April 4, 1896.
39. Schech, Ph. *Krankh. der Mundhöhle*, etc., Vienna, 1885, p. 153.
40. J. Solis-Cohen. Pepper's *System of Medicine*, vol. ii, p. 386.
41. Bresgen. *Text-book.* Vienna, Urb & Schwarz.
42. Bosworth. *Text-book.* New York, Wood & Co.
43. Lebert. *Berl. klin. Wochenschr.*, 1867, No. 16.
44. A. Dubler. A Case of Leptothrix Mycosis of the Pharynx, Larynx, and Œsophagus. Virchow's *Archiv*, vol. 126, No. 3, 1891.
45. Siebenmann. *Arch. f. Laryng.*, vol. ii, p. 365, 1895.
46. Brown-Kelly, A. *Glasgow Medical Journal*, August, October, 1896.
47. Friedland, F. *Prager Zeitschr. f. Heilk.*, iii, 1896.
48. Leber and Rottenstein. *Untersuchungen über Caries der Zähne*, Berlin, 1867.
49. Leyden and Jaffé. *Mediz. Centralblatt*, 1886, and *Deutsch. Arch. f. klin. Med.*, vol. ii.
50. Foerster. *Arch. f. Ophthalm.*, vol. xv, 1.
51. Rassmussen. *Om Drykning of Mikroorganism fra Spyt of sunde Mennesker*, Kopenhagen, 1883.
52. Hamilton, J. K. *Austral. Med. Gaz.*, June 15, 1897.
53. Cecil Parser and Frank Tiswell. *Austral. Med. Gaz.*, March 20, 1896.

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THE USE OF PYOKTANIN IN THE TREATMENT OF CYSTITIS.

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Of the many chronic cases that come to the practitioner few give him more trouble or yield him less satisfactory results than do cases of chronic cystitis. This is largely due, in my opinion, to the anatomy and function of the organ, and not to any extraordinarily high degree of resistance to antiseptic agents of the micro-organisms producing the trouble, or to any particular histological arrangement of the tissues involved, as I believe that the same pathological condition existing in almost any other mucous membrane of the body would readily yield to ordinary treatment.

While it is not my purpose to discuss in this article whether or not all inflammatory processes are due to a microbe, I take the position that every case of inflammation of the bladder and urethra is due to micro-organisms. Admitting the cause to be microbic, one of the first and chief difficulties we meet in carrying out our therapeutical measures is the lack of constant drainage; this is, I think, the great obstacle in the way to success in the employment of aseptic treatment—that is, flushing out the bladder with sterilized water, and I might add solutions of boric acid, for I consider the germicidal power of even a saturated solution of boric acid very slight, it failing to destroy pus cocci in two hours.

While it is impossible to free the bladder for any length of time of the constantly accumulating urine, which is itself an irritant to an inflamed mucous surface, the urine is a fertile soil for the rapid growth and development of the various bacteria and their poisonous and irritating ptomaines; and especially is this true when a small amount of residual urine occurs, the urine in these cases often being loaded with the products of inflammation and decomposition.

The difficulties met with in the treatment of this bladder trouble by means of the stronger and more efficient antiseptics are twofold: First, when they are used in sufficient strength to act as germicides, they are powerful irritants to the delicate mucous lining of the bladder, and their use is attended with considerable pain.

Second, they exert their influence on the inflamed membrane only while being applied, which usually is a very short time.

Now, what we want in the treatment of cystitis is a germicide whose irritant property is very slight, even in concentrated solution, and whose germicidal and antiseptic power is marked in very dilute solutions, and one whose action is continuous over quite a period of time.

The best article possessing these four requirements, I think, is blue pyoktanin, which can be applied to the most delicate mucous membrane, not only in concentrated solution, but in powdered form, with but slight if any irritation.

As a germicide and antiseptic pyoktanin stands high in the list. It destroys the vitality of anthrax bacilli in solutions of 1 to 1,000, and retards the development of pus cocci in solutions of 1 to 2,000,000. Pyoktanin, when applied to an inflamed mucous membrane, stains the same intensely blue; this color remains for a number of days, and, of course, the pyoktanin is active as an antiseptic as long as any color remains.

To substantiate my claims for pyoktanin in the treatment of inflammation of the bladder and urethra I wish to report the following cases:

Case I.—C., male, aged sixty-five years, a teacher by profession, but owing to ill health has been unable to follow his profession for several years.

The patient gives a history of passing urinary calculi in 1871, and again in 1875. In 1877 he underwent a surgical operation for the removal of an enchondroma of the right pectoral region; ever after this operation the patient complained of being very susceptible to cold, and in a few months experienced his first inflammatory trouble with the bladder, which soon passed away for a time, but was readily set up anew on exposure to a cold and changing atmosphere; in 1883 he had another longer and more severe attack of cystitis; in the mean time the enchondroma had regrown and to a much greater size, when in the following year (1884) it was again removed by the knife; but the wound failed to heal, and in the following year, 1885, he again submitted to the gentle touch of the surgeon's knife with better results, the wound quickly healing, and remaining so. About this time he had another severe attack of cystitis, which lasted quite a while; for a time he was comparatively free from any bladder trouble, until another attack came on in 1890. In all of these attacks the patient was able to void urine without the use of the catheter.

In the spring of 1894 the patient had a severe attack, and got but little relief until the summer of 1897, after the pyoktanin treatment; during nearly all of this period he had to draw off his urine with a catheter. He sought the assistance of a number of physicians, but all to no purpose. Each physician diagnosticated an enlarged prostate gland, and the treatment prescribed was a saturated solution of boric acid to flush out the bladder. At times during the day the patient might be able to void urine in a full stream without any difficulty, except the excruciating pain felt as the bladder was emptied; and at other times during the same day, though the bladder was full of urine, the patient might be unable to pass a single drop.

In June, 1897, I was called to see the patient with the above history. I found him suffering intense pain and having to draw off his urine with the catheter every few hours; and I might add here that this operation was always done by the patient's son, who could operate with the utmost nicety and with strict aseptic precautions.

On examination of this patient I concluded that the obstruction to the flow of urine was not due to an enlarged prostate gland, but to spasm of the urethra instead. On the withdrawal of a half pint of urine and subjecting it to microscopical and chemical examination, I found it to be loaded with pus, epithelial cells, and phosphates, teeming with bacteria, and giving off an intense and very disagreeable odor.

The patient was given five-grain doses of salol three times a day; the urine soon gave the reaction for salicyluric acid, the amount of pus lessened, odor entirely disappeared, and pain very much lessened; but the circulation was so depressed and the sweating so profuse that this remedy had to be abandoned, and in few days the patient was back to his former condition. Washing out the bladder with a seventy-five-hundredths-per-cent. solution of trikresol was also tried, but the irritation was so great and results so poor that it, too, was abandoned.

Having had such good results from the application of pyoktanin to inflamed mucous surfaces in other parts of the body, I now resolved to apply it to the bladder by the following method: After drawing off all of the urine with the catheter, a fountain syringe is filled with warm sterilized water, and nozzle attached to catheter *in situ*, and, after filling the bladder a couple of times with water and allowing it to run out, while the catheter is still in position, with a small rubber syringe a couple of drachms of a saturated solution of pyoktanin are injected into the bladder through the catheter; a very small quantity of water is now passed in from the fountain, sufficient to free the catheter from the solution of pyoktanin. The pyoktanin is allowed to remain for a minute or two, when the bladder is filled with water from the fountain syringe, and allowed to pass out; this is repeated until the water comes back clear and free from blue tint.

When the inflammatory trouble is very severe the patient usually suffers quite a good deal of pain several hours after treatment, but this is readily relieved by one-grain doses of codeine.

The treatment is repeated about every ten days.

The above patient suffered quite a good deal from the first treatment, until he took a grain of codeine; he was promptly relieved and his improvement was rapid, when, after the third treatment, his pain was practically all gone and the urine normal; the only trouble remaining was his occasional sudden inability to void urine without the catheter; considering this due to the irritable condition of the urethra, at the following treatments larger quantities of the solution of pyoktanin were injected, and instead of freeing the catheter from the solution the catheter was gently and very slowly withdrawn, thus distributing the solution to all parts of the urethra, and the results were all that could be desired, the first treatment of the urethra giving entire relief.

This patient was entirely cured by seven or eight treatments, and could pass urine, night or day, in a full, easy stream, free from pain.

While this patient is peculiarly susceptible to cold, it has very slight if any effect on the bladder, while before the treatment cold would excite an exacerbation of his bladder trouble.

Case II.—M. C., female, aged twenty-five years, married, suffering from chronic cystitis for several years;

patient flushed out bladder with saturated solution of boric acid daily. Urine contained large quantities of thick, ropy mucus. First treatment gave the patient prompt relief, and second treatment afforded entire relief at the time; but before a third treatment was given the patient passed from the writer's observation, and he is unable to say what the final results were.

Case III.—B., male, aged twenty-eight years, a clerk, unmarried, gives a history of several years' suffering from cystitis. At time of first treatment the urine was found to contain large quantities of a tenacious mucus, quite a quantity of phosphates, and crystals of oxalate of calcium. The patient's digestive powers seemed very much impaired, and consequently he was poorly nourished. This patient improved from the first treatment with pyoktanin, but not so rapidly as Case I.

In this case the patient was instructed to pass the solution of pyoktanin out through the urethra after the removal of the catheter; the catheter was then replaced, and after the bladder was filled the last time with water the patient was likewise instructed to pass the same out through the urethra.

Case IV.—M., male, aged sixty-seven years, a physician retired from practice, has had an enlarged prostate gland and had to draw all urine with a catheter for a number of years.

While this patient is an "M. D." and has done an active practice in the days gone by, it is impossible to convince him of the existence and possibility of microbic infection; he does not believe in asepsis and antisepsis, and acts accordingly. The doctor will carry his catheter around in his pocket and whenever he has a call for it uses it at once without even pretending to cleanse it.

On the examination of this patient the writer found him suffering considerable pain and his urine containing a quantity of pus; the first and second treatments with pyoktanin were accompanied by very slight pain, and the pus formation was promptly arrested.

The patient at this juncture of affairs did not care to take any further treatment, and, as his ideas of "surgical cleanliness" did not coincide with those of the writer, further treatment was not urged upon him.

WHEN AND WHY SHALL WE OPERATE IN INSUFFICIENCIES OF THE OCULAR MUSCLES?

By ALEXANDER DUANE, M. D.

(*Concluded from page 853.*)

Case XII.—*Hyperphoria; Exophoria (Divergence Excess); Headaches, Asthenopia, and Muscular Weakness; Operations; Marked Improvement.*—Mrs. W. B., aged about thirty-two years; neuralgic headaches; asthenopia for several months; physically weak.

Muscular and Refractive Conditions, August, 1889.—V. normal. Under atropine takes + 0.50 D. each. Exophoria 2° (parallax and phorometer); left hyperphoria, $\frac{1}{2}$° or more; prism divergence, 6°–8°; prism convergence, 12°–19°.

Treatment and Result.—Tenotomy of left superior rectus, November 1, 1889, after which left hyperphoria, 0° (increasing later to $\frac{1}{2}$°); exophoria, 3°–4° (parallax, phorometer, and screen); prism divergence, 10°. Tenotomy of both externi (in December, 1889, and January, 1890), followed by exercise of convergence with prisms (up to 63° and more). Final result: Exophoria, 1°–2°; prism divergence, 9°. Headaches much relieved, improvement being manifest on November 9th, and continuing. Distinct and continuing improvement in other respects noticed.

This case is a type of several in which relief of the symptoms occurs without any very great apparent change in the muscular conditions. I say "apparent" because the operations in all such cases are extensive enough to produce a decided effect; the real state of the case, without doubt, being that the slight initial deviation present represents only a small proportion of what actually exists, the rest being concealed by muscular effort. In other words, just as there is a latent and a manifest hypermetropia, so also there is a latent and a manifest deviation. It is scarcely possible to explain on any other hypothesis the fact that when we operate for a heterophoria, we not infrequently find by our tests, immediately after we have made a considerable division of the tendon, a greater amount of deviation than existed before we began.

Case XIII. *Hyperphoria; Epilepsy; Physical and Mental Depression; Headaches; Operation, with Discontinuance of Bromides; Relief of Headaches and Improvement of General Health; Increase of Epilepsy.*—George B. C., aged twenty-six years. At the age of fifteen was struck in right eye with baseball. Soon after began having epileptic attacks. Put on bromide treatment at once, and has been taking bromides steadily ever since. Now has from one to two or three attacks of *grand mal* monthly (now generally nocturnal) and numerous attacks of vertigo with momentary loss of consciousness (often two or three a day). Memory growing poor; often unconscious of his surroundings, doing things automatically. Frequent headaches; constipation; poorly nourished; lassitude; physical depression and mental hebetude. Nasal stenosis and mouth breathing.

Muscular and Refractive Conditions.—First seen October 18, 1889. October 30, 1889 (atropine), max. V. with—

R. + 0.75, cyl. ax. 90°.
L. + 0.50, sph. ⊃ + 0.50, cyl. ax. 60°.

Exophoria, $\frac{1}{2}$°–2° (phorometer and parallax); left hyperphoria slight (less than 1°), but persistent; prism divergence, 5°–6°; sursumduction (R. = L.).

Treatment and Course.—Preliminary trial with prisms for correction of hyperphoria. Discontinuance of bromides in November. In December, 1889, and January, 1890, tenotomy of left superior rectus (twice) and right inferior rectus. Recurrence of hyperphoria after operations, but final one ultimately caused very slight overcorrection (trace of right hyperphoria). Exercise of prism convergence (which, with great difficulty and by slow degrees, was ultimately brought up to 53°, converting exophoria into esophoria of 1°). Prism divergence remains 6°. Treatment of nasal stenosis.

Results.—During treatment, strength and general condition improved very noticeably; he gained in weight and felt bright, cheerful, and much more alert. Headaches very greatly diminished. The improvement in all these respects persisted, being still present when last seen (in October, 1890). At this date he had taken no bromides for nine months. Attacks, however, which for some months had been much less severe and frequent, increased in number and severity during the summer. Still nasal stenosis and mouth breathing.

Case XIV. *Hyperphoria and Esophoria (due probably to Insufficiency of Superior Oblique and of External Rectus); Diplopia; Operations; Nearly Complete Restoration of Balance of Muscles, and Permanent Improvement in Symptoms.*—John C. T., aged forty-three years; thin and anæmic; suffers from diplopia. Using + 1.80 for distance and + 2.50 for near. These good.

Muscular Condition, November, 1889.—Right hyperphoria, 2°–3° (parallax and phorometer); esophoria, 3°–4° (parallax and phorometer); prism divergence, 2°–4°. With red glass, vertical (right) and homonymous diplopia. Right diplopia, 2° in primary position; increases rapidly as eyes are carried to left (right-hand candle seems to drop to floor); decreases as eyes are carried to left and also when eyes are carried upward; in lower field, said sometimes to increase, sometimes to decrease. Homonymous diplopia increasing greatly when eyes are directed to left; in other directions of the gaze varying inconstantly.

Treatment.—January, 1890, tenotomy of left inferior rectus (repeated in April, 1890). This causing some overcorrection, a compensatory advancement of left inferior rectus was done in August, 1890. Tenotomy of right internus, April, 1890, and of left internus, May, 1890.

Result, September 8, 1890.—Esophoria less than 1°; left hyperphoria, $\frac{1}{2}$° or less (by parallax); 0° when eyes converge; prism divergence, 8°. With red glass, homonymous diplopia, 4°, and very slight vertical (left) diplopia when the eyes are in the primary postion. Left diplopia increasing to about 2° when the eyes are directed far to the left, decreasing to 0° as the eyes are directed to the right, and then ultimately replaced by right diplopia of 1°. Without red glass no diplopia except in extreme lower field.

General condition improved. Able to use the eyes longer at a time and with more ease and freedom than before the operation. Has not had the slightest tendency to diplopia since (report of October 25, 1897).

The records of this case, unfortunately, are fragmentary, the subjective symptoms not being given fully, and the notes of the examination not being precise enough to enable the diagnosis to be made with absolute certainty. The examination of the oblique positions of the gaze, it appears, was not made. If it had been it would have probably shown that the vertical (right) diplopia not only increased markedly when the gaze was directed to the left, but also increased, and even more, when the gaze was directed down and to the left (indicating an insufficiency or slight paresis of the right superior oblique).* This was the diagnosis at the time, and, corresponding to this diagnosis, a tenotomy of the left inferior rectus (according to Graefe's plan) was made. The result was very satisfactory, the vertical diplopia for all ordinary directions of the gaze being permanently abrogated, and the patient's condition in other respects being much improved.

Case XV. *Hyperphoria; Headaches; Relief from Operation.*—Annie B., aged seventeen years. Headache, neuralgic pain in back of head and neck; conjunctival irritation when eyes are used for near work or exposed to light.

Refractive and Muscular Conditions, November 11, 1889.—Without mydriatic shows myopic astigmatism (—0.75 to —1.00 cyl. ax. 180°); under atropine, + 1.50 cyl. 90° each. Before use of glasses, esophoria, $\frac{1}{2}$°–1° (phorometer and parallax); left hyperphoria, $\frac{1}{2}$° (phorometer and parallax). After use of glasses (May, 1889), exophoria, 1°; prism divergence, 8°–10°; left hyperphoria (phorometer and parallax), 1° (increasing, after wearing prism for correction of hyperphoria, to 2°).

Treatment and Course.—November 25, 1889, + 1.00 cyl. ax. 90° prescribed for constant use. Recurrence of spasm of accommodation relieved only by persistent use of atropine. In February, 1890, + 1.25 cyl. 90° prescribed. Headaches continued, although less. Spasm again recurred, and required persistent use of atropine and prolonged abstention from near work to overcome it. In May, again, recurrence of spasm in slighter degree and a good deal of headache. Wearing of trial prisms of 1° and 2° to correct hyperphoria relieved headache and caused no disturbance. May 26th, free tenotomy of left superior rectus, slightly overcorrecting hyperphoria. July 19th, very little headache since operation, her present condition being a great improvement over what it had been before. Right hyperphoria, 0°–$\frac{1}{3}$°; exophoria, 0°–2°; prism-convergence, 38°. Some return of spasm; thorough instillation of atropine (one and a half per cent.)* showed + 1.50 cyl. 90°, and these were prescribed, but were not tolerated, as they caused headache, and had to be replaced by the old glasses (+ 1.25 cyl.).

Case XVI. *Exophoria (Divergence Excess); Headaches and Pain in Eyes; Asthenopia; Blurring of Sight for Near; Operations on Both Externi (Excessive on Left); Improvement after First Operation; Temporary Recurrence of Headache after Second.*—Miss L., aged sixteen years. Pains, frontal and ocular, brought on especially by exposure to artificial light or to sun; print blurs when she reads; can not study long; always anæmic and in poor health.

Refractive and Muscular Conditions.—V. $\frac{18}{15}$ each. Under atropine, H. of 0.50 D. each. Exophoria, 6°–8° or more (screen, parallax, and phorometer); prism divergence, 16°–17°; prism convergence, 15°–20° (increased by practice to over 30°). No constant vertical deviation. With red glass occasional crossed diplopia for distance.

Treatment and Course.—December 12, 1889, tenotomy of right externus, after which exophoria, 3°–4°; prism divergence, 15°. Headaches much relieved (only two slight ones in three weeks). January 6, 1890, tenotomy of left externus, after which esophoria, 0°–4°; prism divergence, 3°–5° (increasing subsequently to 8° or 9°). With red glass, homonymous diplopia for distance when eyes are directed moderately to left, but not when they are directed moderately to the right. After operation a good deal of headache and vertigo, which, however, diminished later.

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* Or a spasm of the left inferior rectus.

* A one-per-cent. solution of atropine caused but incomplete abrogation of the accommodation in this patient.

March 28th, + 0.25 sph. prescribed.

In this case, the tenotomy of the left externus, judging from the character of the diplopia, was somewhat excessive, and this fact, no doubt, accounted for the temporary headache and vertigo after this operation. These disagreeable symptoms had already begun to abate when the patient was last seen, and, from experience in similar cases, I think it likely that they ultimately disappeared altogether. But as the subsequent history can not be traced, this can only be regarded as a more or less plausible conjecture.

Case XVII.—*Hyperphoria (due to Paresis of Right Superior Rectus); Exophoria (due probably to Spasm of Right Externus combined with or consequent upon Insufficiency of Left Internus), and Intermittent Divergent Squint; Operations; Permanent Relief of Deviation and Diplopia, and Improvement in Ability to Use Eyes.*—J. T. R., male, about twenty years. Right eye diverges at times; used to have diplopia spontaneously and now can produce it at will. Can not read with right eye alone.

Refractive and Muscular Conditions, December, 1889.—Under atropine—

R. + 1.00, sph. ⊂ + 0.75, cyl. ax. 110°.
L. + 0.75, sph. ⊂ + 0.75, cyl. ax. 75°.

Repeated tendency to spasm of accommodation in spite of constant use of glasses. Exophoria up to 15° (parallax and phorometer); left hyperphoria, 2°–6° (parallax and phorometer); prism divergence, 22° (when hyperphoria is corrected); prism convergence, 11°–15°. With red glass, crossed and vertical (left) diplopia (and parallax) for both distance and near, in the upper field, and also when the eyes are turned horizontally to the right. Diplopia, both crossed and left, increasing markedly as eyes are carried up and to the right.

Single vision in the upper and left-hand portion of the field of fixation, and when eyes are carried horizontally to the left the degree of divergence (as shown by parallax) diminishes constantly, until finally replaced by convergence.

When he produces diplopia by voluntary effort, right eye is seen to turn out, and image formed by right eye moves down and to the left. Image formed by right eye tipped to the left.

Treatment and Course.—January 25, 1890, advancement of right superior rectus; February 27th, advancement of left internus with tenotomy of right externus; March 28th, tenotomy of left superior rectus. Exercise of convergence up to 38°. In February, 1890, correction of refraction by—

R. + 0.50, sph. ⊂ + 0.75, cyl. ax. 110°.
L. + 0.25, sph. ⊂ + 0.75, cyl. ax. 75°.

Final result: Esophoria, 1°; vertical deviation in primary position slight, if any, and none at all in convergence. When eyes diverge (as in producing voluntary crossed diplopia for distance or near, or when overcoming a prism, base in), there is still a left hyperphoria of 2° or 3°,* which, however, is readily overcome.

In April developed marked spasm of accommodation.

Immediate result (confirmed by report of February, 1894): Increased ease of seeing with right eye; ability to use right eye for reading, which he could not do before. Headaches relieved by the use of glasses. Notices that he can run his eye down but not up a column of figures.*

The result in this case must be regarded as highly satisfactory. There was evidently a marked insufficiency of the right superior rectus, producing diplopia and inability to use the right eye. By the advancement the weak muscle was so far strengthened as almost entirely to relieve the diplopia; and a complete balance for the primary position, although not, of course, for the extreme lateral positions, was obtained by a subsequent tenotomy of the left superior rectus.

Case XVIII. *Hyperphoria; Headache; Vertigo; Asthenopia; Hysterical Symptoms and Psychic Depression; Operations; Permanent Relief of Symptoms.*—Eliza P., aged about twenty-one years. Pains in back of head and between shoulders; pain and feeling of strain in eyes; vertigo; hysterical attacks and attacks of mental depression amounting almost to melancholia.

Refractive and Muscular Conditions, January, 1890.—Under atropine, V. $\frac{15}{10}$ each, with—

R. + 0.50, sph. ⊂ + 1.00, cyl. ax. 90°.
L. + 1.00, sph. ⊂ + 0.25, cyl. ax. 90°.

Right hyperphoria (phorometer and parallax), 1°–2°; exophoria, 1°; prism divergence, 5°–6°; prism convergence, 33°.

Treatment and Course.—After preliminary use of trial prism correcting hyperphoria, January, 1890, tenotomy of right superior rectus, producing relief of headache. January 16th, tenotomy of left inferior rectus. February 17th prescribed—

R. + 0.50, sph. ⊂ + 0.75, cyl. ax. 90°.
L. + 0.50, sph. ⊂ + 0.25, cyl. ax. 90°.

As hyperphoria showed constant tendency to recur, free tenotomy of right superior rectus was again performed (February 21st and March 7th), producing slight overcorrection. April 6th, left hyperphoria, a trace; exophoria, 1°, or less; prism divergence, 5°; prism convergence, 45°.

Result.—Seen in April, 1890, October, 1891, and September, 1896, and reported by letter in October, 1897. Except for a temporary relapse in April, 1890 (due to a dyspeptic attack), quite free from asthenopia, headaches, and melancholic symptoms, and showed decided improvement in her general health. Soon discarded her glasses, and found that doing so did not bring on asthenopia and other troubles with eyes. A little over a year ago became run down from rapidly repeated pregnancies and possibly other causes, and since then symptoms have recurred. They disappear again, however, whenever she is built up physically.

Case XIX. *Hyperphoria; Esophoria (probably from Insufficiency of Right Externus), Chorea, and Severe Continuous Headaches; Operations; Improvement in Chorea, but not in Headaches.*—Ida H., aged sixteen years. Headache constantly for six years; so severe now that she can not go to school. Pain along spine. Chorea, chiefly affecting facial muscles, for last six months. Photophobia and severe pain in eyes.

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* See the following footnote.

* Both of these findings (particularly the development of a hyperphoria when the eye is abducted) point to a slight remaining insufficiency of the superior rectus.

Refractive and Muscular Conditions.—Under atropine, January 31, 1890—

R. + 1.00, sph. ⊃ + 0.25, cyl. ax. 110°. }
L. + 1.25, sph. ⊃ + 0.25, cyl. ax. 90°. } V. = $\frac{15}{10}$ —.

Esophoria, 0°–4° (increasing as eyes are directed to right, decreasing as eyes are directed to left); right hyperphoria, 1°–2°; prism divergence, 5°–6°.

Treatment and Course.—February 4th, prescribed—

R. + 0.75, sph. ⊃ + 0.25, cyl. ax. 110°.
L. + 1.00, sph. ⊃ + 0.25, cyl. ax. 90°.

February 5th, tenotomy of right superior rectus; February 8th, tenotomy of left internus; February 12th, tenotomy of right internus. Last operation produced temporary excessive effect; also had treatment for marked occlusion of nares; which, however, still persisted to a greater or less extent when last seen in April.

Ultimate result (April 12th): Exophoria, 0°–1°; prism divergence, 6°–7°; prism convergence, 20°–30°. Chorea at this time almost gone, although she has still some jerking of the arm. Headaches very severe, and remained so when last heard from (June 16, 1890).

Case XX. *Esophoria (Divergence Insufficiency); Occipital Pain and Asthenopia Dolens; Operations; Deflection and Symptoms not Essentially Improved.*—Miss K., aged seventeen years. For years occipital pain and pain in eyes; eyes water when she reads. At age of twelve her symptoms disappeared, but reappeared when she was fourteen, and have continued ever since.

Refractive and Muscular Conditions.—Without atropine, V. $\frac{15}{20}$; accepts + 0.50 cyl. ax. 90°. Under atropine, June 12, 1890—

R. + 2.00, sph. ⊃ + 1.50, cyl. ax. 85°. }
L. + 3.00, sph. ⊃ + 1.00, cyl. ax. 90°. } V. = $\frac{15}{10}$ —.

Esophoria, 4° (and under atropine, with refraction corrected, homonymous diplopia); vertical deviation varying and apparently due to malposition of glasses; prism divergence, 4°. Esophoria did not diminish under use of correcting glasses.

Treatment and Course.—June, 1890, ordered—

R. + 1.50, sph. ⊃ + 1.50, cyl. ax. 85°.
L. + 2.50, sph. ⊃ + 1.00, cyl. ax. 90°.

August 14th, tenotomy of right internus; August 28th, tenotomy of left internus; October 10th, tenotomy of right internus (very free).

Final result, November 4th: Esophoria, 5°–6°, essentially the same whether the refraction is corrected or not); prism divergence, 4°; prism convergence, 35°; after exercise of convergence, tendency to homonymous diplopia. Headaches still severe.

NUCLEIN IN SURGERY.

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There is a tendency among surgeons to neglect that careful, persistent, and painstaking study of therapeutics which characterizes wide-awake physicians. Too many of them are prone to consider their operation as of most or all importance, forgetting, for the time at least, that the after-treatment demands just as much consideration, and even more. The operation, when really indicated, possesses much value; but when that indication has been fulfilled, the after-treatment to be entered on may have more importance in its own place than did the operation when that was the main consideration. I mean to say that Nature can do many things without our assistance; but when we have been led to believe that an operation is indicated, and operate, the responsibility of bringing about complete recovery rests upon us.

I must assert that these are not trite statements. I know that we have often heard and read them before, but, judging from what we see in our daily experience as surgeons, I am convinced that they are often forgotten, or else have failed to produce their due effect and to find their own place in the minds of the hearers.

He who teaches therapeutics as applied to medicine is very explicit concerning the agents to be employed, the amount, the frequency, etc. In lectures and books on surgery there is a lengthy consideration of ætiology, pathology, preparatory treatment, and operation; but when we come to after-treatment it is frequently hurried over in such a manner as to belittle its importance, or to seem to do so, at least. It is true that surgery, when considered as but a part of medicine in its broadest sense, is really only a branch of therapeutics. But I fear that we specialists in surgery would rather have it occupy a more independent position. Some might consider that when we know therapeutics, as applied to medicine, we know it as applied to surgery. But this is not so, without special study and application. The practised surgeon, who, by the way, should also be a practised physician, has special and definite application of therapeutic means to the one end, cure, or, where that is not possible, relief. The physician does not always apply any one remedy in the same dose, nor with the same frequency; neither should the surgeon. And yet it is common, when it comes to surgical after-treatment, to see general directions only given. For instance, it is common to see such an agent as strychnine mentioned in a general way, or atropine, different-sized doses of which produce far different results; or to hear of "diffusible stimulants" or "alcohol." This latter, we know, seldom refers to pure alcohol, but to alcoholic stimulants, as brandy or whisky. Why not say so?

So much to point out the neglect which is very commonly shown to what we have called surgical therapeutics. Besides the special, local application of surgery, there is also general treatment to be thought of. We have a whole patient to deal with, not an isolated limb, or breast, or uterus.

Granting to surgical therapeutics, then, its due amount of importance, let us turn our minds to the agents which we may employ in making our efforts result as they should when the best interests of the patient are considered.

We will confine ourselves to the consideration of one of these, which can be applied to every case of surgery, and that is nuclein. Chemically, it is a phosphorized proteid, which has been variously styled "defensive proteid," "Nature's antitoxine," "Nature's own remedy." So much has already been written concerning the nature of this agent, its preparation, source, and the method of its action, that it is unnecessary for us to enter upon a consideration of those matters here. Those who are still unacquainted with them are respectfully referred to the writings of Aulde, of Philadelphia, which give the clearest exposition and most scientific explanation of the mode of action of this agent, possessed of such a wide range of application.

Nuclein has received frequent and lengthy consideration during the last few years at the hands of physicians, but surgeons evidently have not paid as much attention to it as it deserves at their hands. Where is a vital excitant more needed than in surgery? We can, however, draw certain deductions from its use in medicine, and apply them to its use in analogous cases in surgery, besides finding special applications for it. For instance, learning early in its investigation of its utility in amygdalitis, pharyngitis, and laryngitis, we came to administer it both locally and internally in cases of operation in those regions, and found that it reduced local congestions and hastened healing and complete recovery. So it went on.

Furthermore, the study of nuclein would seem to especially concern the surgeon, when we recall the fact of Metschnikoff's extracellular destruction of bacteria, as well as his phagocytosis; also the fact that the nucleus of the white blood-corpuscle secretes a proteid substance, solutions of which are antiseptic; "that such solutions will arrest the multiplication of micro-organisms"; also that "they stimulate the activity of the nuclear body of the blood cells, and thus maintain an antiseptic condition of the blood—a condition inimical to the growth and multiplication of micro-organisms." This latter is brought about not as by a solution of some chemical antiseptic, but by the destruction of the bacteria as fast as they multiply. This is due to the nuclein, which increases leucocytosis, and it would be better to say that an aseptic condition of the blood is maintained. If this can be increased by the administration of an agent developed outside of the body, what a gain! It can be, and the agent is nuclein.

The study of nuclein was begun in 1831 by Braconnot, and prominent as its investigators and enthusiastic sponsors of late years (since 1893) have been Aulde and Vaughan in this country, Germain Sée in France (who named it), and Althaus in England. Metschnikoff's phagocytosis depends upon its action, and so do Constantin Paul's cerebrin, Hammond's organic extracts, Brown-Séquard's testicular fluid, and probably, also, thyreoid extract and desiccated thyreoid.

Nuclein therapy is but a part of cellular therapy; "is really, in fact, a scientific confirmation of cellular therapy." It acts upon the individual cells of the body and tones up the vital functions. Every patient who comes to the surgeon is in a condition which may be characterized as a low condition of the system. If he were well we should not have him under our care. His health is below par, and oftentimes we are obliged to delay the indicated operation until our patient is in a condition to bear the necessarily accompanying shock and depression. His elimination may be incomplete, his system may be teeming with toxines, so that it can not rise to the occasion and do that which is demanded of it. So we need to give our patient some support, and this brings us to the consideration of prophylaxis or preparatory treatment, which may enable him to pass through the ordeal of operation safely, insuring a complete and speedy convalescence.

With regard to surgical prophylaxis or preparatory treatment—to quote Dr. Aulde: "The vitality of the animal organism depends upon the integrity and normal functional activity of the cells. Derangement of the various organs is always the result of functional or organic perturbation of the cell life or cell activity, and upon this well-known fact rests the modern doctrine of cellular therapy. All, or nearly all, remedial agents are exhibited with a view to modify, to increase, or diminish cellular activity, so that cellular therapy is but a new name used to designate a method which has universally prevailed since the dawn of medical history. The scientific searchlight has but revealed its existence, while the bacterial torch enables us to fix its position." So much for a picture of health and disease, and the principles which underlie each.

To quote further: "When the blood is disorganized by the presence of poisons, whatsoever they be, when the nervous system no longer responds to irritants, and anodynes only speed the way to the grave, and when diffusible stimulants are of but temporary advantage, it will be of advantage to consider more carefully the methods of Dame Nature. Mechanical treatment is a failure when it is no longer possible to tighten up the machinery to make it perform the usual functions; antiseptic treatment is a failure when absorption is arrested; and stimulants are of no avail when the tide of life begins to ebb. If, however, by some occult process we could stimulate cellular activity, increase or augment the functions of the leucocytes, thus reestablishing an energetic leucocytosis, these small bodies would promptly find their way into every recess of every organ and tissue of the body, with the effect of changing almost instantly the whole morbid complexus. In other words, were we able to supply the system with an artificial phosphorized proteid, a nuclein, victory would be the reward instead of defeat, and we should be able to effect not only an amelioration in sickness, but we should also be enabled thereby to reduce mortality to a minimum."

This we can do, and so if, in our surgical prophylaxis (preparatory treatment, if you please), we will administer nuclein, we shall tone up every individual cell and so quicken every function of the body, vital and otherwise, fortifying our patient against the shock and depression of operation and anæsthetic (the prophylaxis of shock, hæmorrhage, and septicæmia will be considered later), and making our efforts count for all they are worth. In other words, we shall immunize our patient against the accidents of surgery and surgical diseases so called, as nuclein has immunized those exposed to diphtheria, measles, scarlatina, and other infections.

Furthermore, "when disordered innervation results from faulty assimilation or defective elimination, its (nuclein's) beneficial influence becomes quickly apparent."

Let us now consider briefly some of the conditions in which nuclein has proved to be marvelously efficacious, and in which a surgical application can be made.

It has been found efficacious in insomnia, melancholia, neurasthenia, general debility, and agoraphobia. It produces an exhilaration and feeling of elation, and stimulates cerebral functions, through its effect in making every cell act up to the full extent of its functional purpose. Thus we see how useful it would be in any surgical condition accompanied by mental alienation.

Another class is that composed of nasopharyngeal catarrh, amygdalitis (all forms, including "quinsy"), pharyngitis, pleurisy, pneumonia, and bronchial affections. It was in the treatment of this and the next class that the great utility of nuclein was first confirmed. One will at once think of its use in cases of operation on the nose, throat, larynx, pleura, and tonsils, as well as of its use as a prophylactic against infectious bronchitis or pneumonia in operations on the mouth or chest.

This agent has been especially active in curing cases of anæmia and chlorosis. "To-day the corpuscles are found broken, of various sizes, irregular and crenated, and sluggish in their movements; to-morrow they are found smooth, healthy in appearance, and move about the field with a velocity that is most surprising. . . . The various functions are reestablished; nervous energy is restored through increased cellular activity." Its use with saline infusion in the immediate and after treatment of hæmorrhage will at once occur to everybody. Besides this, its great utility in the preparatory treatment of such subjects as are run down will be suggested.

In digestive disturbances, intestinal diseases, and affections of the liver, nuclein has been found to act promptly and thoroughly. In cholera infantum it is a life-saver. It assists digestion and improves the condition of the bowels. "Nature, in attempting to get rid of impurities and poisons in the alimentary canal, pours out an abundance of blood serum during the progress of chronic catarrh." She does this to get the effect of nuclein locally, where the disease is, and the administering of nuclein artificially will bring about the same result. In self-intoxication, both gastric and intestinal, the cells of the mucous membrane are rendered healthy so as to ward off the poison and refuse its absorption, and the discharge of the fæces and poison from the bowels is hastened.

In derangement of renal function, with œdema, anasarca, and ascites, or organic disease of the kidneys, nuclein administered with glonoin has been found to greatly ameliorate. The condition of the kidneys being a weighty consideration with the surgeon, this effect of the administration of nuclein will be greatly appreciated. It makes the kidneys do their very best, and that is what we desire, especially while the patient is in our hands. The effect may not be a permanent cure, but in acute cases, as scarlatinal nephritis, we may expect even that.

The agent under consideration has been found efficacious in night sweats and those colliquative or other sweats which are encountered in the practice of surgery.

A fact which will interest surgeons especially is that nuclein has produced excellent results in those infectious or germ diseases of which the cause is definitely known. Excellent results have followed its administration in malaria (acute, chronic, recurrent, and malarial toxæmia), diphtheria, typhoid fever, influenza, and tuberculosis (pulmonary, tuberculous synovitis, tubercular adenitis, tubercular peritonitis). In all these leucocytosis is defective, especially in tuberculous disease. It is not simply deficient, it is defective, there being a distinction between these.

"Rabbits inoculated with tuberculous sputum will not be infected, provided a solution of nuclein be introduced within a reasonable time after the injection of the poison." In these latter days wound diphtheria is rare indeed; but if it should occur, and the bacteriological test proved it to be "true," the use of diphtheria antitoxine would be indicated; should it prove to be pseudodiphtheria, or "diphtheroid," nuclein would be suggested to us by its effects when administered in streptococcus sore throat.

Nuclein has given excellent results in the treatment of scarlatina and measles, and has imparted immunity from them in exposed persons.

In rheumatoid arthritis, acute articular rheumatism, and sciatica, nuclein has produced even astonishing results. So in surgical cases complicated by these troubles the course of treatment has been well indicated.

Skin eruptions are often due to imperfect elimination of the products of oxidation formed in the body, and this class of skin eruptions, eczema, and boils yield readily to the administration of nuclein. I have just had a patient get up after an operation for appendicitis upon whose face, neck, and shoulders there appeared a most profuse and intractable crop of boils. In these cases the nuclein hastens elimination through the proper channels, making it more thorough and complete. This saves the skin from overwork by turning the tide of toxines in other directions.

Diabetes mellitus and morphinomania are other conditions in which nuclein has produced excellent results, and which will interest the surgeon; especially the fact that in diabetes the functions of the whole system are so improved that in amputations done because of gangrene we may hope for better results than in the past.

Nuclein often assists a depressed and poisoned heart by promoting the excretion of toxines through the proper channels. This is a point which it always will be well to remember.

Of interest to the gynæcological surgeon will be the fact that uterine hyperplasia is favorably influenced by nuclein when administered alone or as an adjunct to other measures. Besides this, it has proved helpful in dysmenorrhœa, cancer of the breast, exophthalmic goître, hæmorrhagic infiltration, gonorrhœa, and erysipelas.

To sum up the main points to be noted in this list: (1) Nuclein is an agent which will save us the performance of some surgical operations which have been considered necessary in the past; it is an agent which will work to the building up of "conservative surgery." (2) It will fortify the whole system and render its functions normal and active, and put our patient in the best possible condition for operative procedure, and afterward for a speedy and successful convalescence. (3) It builds up the blood, opposes germ life and its products, and saves us the necessity of administering the many remedies which we would rather let alone, because their after-effect is apt to be bad. (4) It acts principally through the blood and nervous system.

Shock, hæmorrhage, suppuration, and septicæmia are subjects which lie very near to every surgeon's heart, and occupy a large place in his thoughts. The thought which is uppermost in his mind is their prevention. From what has gone before we can judge that nuclein will so support the whole system as to fortify it against shock, and so prove to be a veritable prophylactic against that which has been the cause of many a death in surgery. If the shock is the result of hæmorrhage, there is added to the just-mentioned effect of the nuclein, that on the blood referred to in writing of anæmia.

In a system thus fortified with nuclein, suppuration will certainly be far less likely to occur. In some cases there is suppuration, with the "laudable pus" of the old surgeons, no matter what precautions we think we have taken. This is because our patient's cells are not "functioning" as they ought, and this defect we could remedy with nuclein. In other cases we worry because we think we have through some oversight introduced germs into the field of operation, when lo! there is primary union. This is because the patient's cells were acting to the full extent of their duty. In other words, the patient was in good condition and prepared for surgical operation.

Septicæmia consisting in the presence of germs and their products in the blood, we should expect an agent whose effect is to produce an asepsis (or antisepsis) of the blood to act favorably in the case of a victim of such a condition. Various conditions in which nuclein has acted so well are simply mild forms of septicæmia, and in this extreme form we may expect to still find this agent active.

If we are too arbitrary in our contemplation of disease and attempt to classify pathological conditions too closely, we shall conclude that nuclein is a panacea—the "*eau de vie*"; but if we remember that all we affirm of it is that it removes the low condition of the system which we find in all disease, and spurs on each little cell in the organism to full performance of duty, we shall see that in whatever condition we employ it, nuclein works on one grand principle.

Several years' use of nuclein in almost every known disease has resulted in confirmation of the opinion formulated earlier in its history—namely, that it is "absolutely free from deteriorating effect upon the human economy."

The dose of nuclein (Aulde), manufactured by the Nuclein Chemical Company of Chicago, is as follows: Solution (by mouth or hypodermically), adult dose, two drops; tablets, one (equals two drops of the solution); granules, four (equals two drops of the solution); powder, three grains. This dose is to be given from every three or four hours, to three times a day, according to indications. In exceptional cases, when immediate action is needed to save life, much more can be given. Aulde states that he injected hypodermically in one case as much as a drachm.

In closing, I would like to enumerate briefly some surgical conditions in which nuclein has served me well, hastening recovery and changing the whole aspect of the case for the better. These are as follows: Before and after operation for extensive cervical lymphadenitis; removal of adenoids of pharynx; abdominal contusion; curettement for endometritis; removal of fibroma of larynx; trephining of mastoid; otitis; removal of nasal polypi; perineorrhaphy; amygdalotomy; uvulotomy; skin grafting for old ulcers; vesico-uterine fistula.

Bibliography.

1. Editorial. *American Therapist,* December, 1893.
2. Germain Sée. *Universal Medical Journal,* November, 1893.
3. Aulde. *American Therapist,* February, 1894.
4. Aulde. *New York Medical Journal,* March 24, 1894.
5. Aulde. *Transactions of the Medical Society of the State of Pennsylvania,* 1894.
6. Aulde. *American Therapist,* May, 1894.
7. Editorial. *American Therapist,* May, 1894.
8. Aulde. *American Therapist,* May, 1894.
9. Griffiths. *American Therapist,* May, 1894.
10. Caldwell. *American Therapist,* May, 1894.
11. Sangree. *American Therapist,* May, 1894.
12. Byers. *American Therapist,* May, 1894.
13. Dorland. *American Therapist,* May, 1894.
14. Editorial. *American Therapist,* June, 1896.
15. Aulde. *New York Medical Journal,* September 29, 1894.

16. Wilson. *American Practitioner and News,* November, 1894.
17. Bleyer. *American Therapist,* November, 1894.
18. Lewis. *American Therapist,* November, 1894.
19. Editorial. *American Therapist,* November, 1894.
20. Dickson. *American Therapist,* November, 1894.
21. Mattson. *New York Medical Journal,* December 15, 1894.
22. Bacon. *American Therapist,* February, 1895.
23. Wilson. *Columbus Medical Journal,* January, 22, 1895.
24. Erskine. *Medical World,* April, 1895.
25. Knapp. *New York Medical Journal,* April 13, 1895.
26. Buchanan. *American Therapist,* June, 1895.
27. Smith. *Alkaloidal Clinic,* May, 1895.
28. Knapp. *American Therapist,* July, 1895.
29. Jacobsohn. *New York Medical Journal,* July 20, 1895.
30. Baskett. Paper read before the Annual Meeting of the Missouri State Medical Society, May, 1895.
31. Peyser. *American Therapist,* September, 1895.
32. Aulde. Paper read before the Twenty-first Annual Meeting of the Mississippi Valley Medical Association, Detroit, Michigan, September 6, 1895.—*The Alkaloidal Clinic,* October, 1895.
33. Aulde. *The Alkaloidal Clinic,* November, 1895.
34. Bacon. *American Therapist,* December, 1895.
35. Veritz. *Medical Record,* October 26, 1895.
36. Bacon. Reprint from the *Medical Summary.*
37. Editorial. *The Alkaloidal Clinic,* May, 1896.
38. Waugh. *The Alkaloidal Clinic,* May, 1896.
39. Bacon. Reprint from the *Medical Summary.*
40. Toboldt. *New York Medical Journal,* November 14, 1896.
41. Abbott. *American Therapist,* November, 1895.
42. Aulde. *Alkaloidal Clinic,* January, 1896.
43. Aulde. *Alkaloidal Clinic,* December, 1895.
44. Crookshank. *Alkaloidal Clinic,* September, 1895.
45. Brown. *Alkaloidal Clinic,* December, 1895.
46. Philp. *Alkaloidal Clinic,* July, 1896.
47. Editorial. *American Therapist,* December, 1895.
48. Editorial. *American Therapist,* January, 1895.
49. Metschnikoff. *Modern Medicine,* April, 1895.
50. Editorial. *American Therapist,* May, 1895.

PERIPHERAL NEURITIS, INCLUDING OPTIC NEURITIS, FOLLOWING LAVAGE OF A DILATED STOMACH.

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On September 18, 1897, A. M., aged forty-six years, was sent to me. He gave the following history: In February of the same year he first noticed a poor appetite, discomfort after eating, and a burning sensation in his stomach. In May vomiting commenced and has continued since, becoming more frequent and copious. Has never had pain in the abdomen; bowels occasionally constipated. In June he weighed a hundred and fifty-two pounds; in August, a hundred and four pounds; and in September, a hundred and nine pounds. He is a moderate smoker, and has been accustomed to a regular quantity of beer each day. There is no history of syphilis or lead poisoning. Past and family history negative. His occupation has involved heavy lifting and an irregular attendance at meals. Being a German, he confesses a liking for various and much cold vegetable preparations, with a moderate consumption of beer. In September the vomited matter was a thin, light-brown-colored, sour, frothy fluid, and sometimes amounted to half a gallon at one ejection. The vomiting occurred about every other day, more frequently at night. There was also discomfort on assuming the prone position.

Examination of the abdomen revealed an evidently dilated stomach. No hardness or tumor in the pyloric region. The pylorus was made out to be below and to the right of the umbilicus, and some fluid present in the stomach elicited the "splash" symptom. The heart and lungs appeared normal. The urine, when examined, contained neither albumin nor sugar. The vomited matter was not examined microscopically or bacteriologically. A suitable dietary was ordered and rigidly adhered to, a mixture of carbolic acid and strychnine prescribed, and he was kept under observation for a few days. The amount of carbolic acid in the four-ounce mixture was fifteen minims; the dose, two drachms three times a day; so that, in considering the after symptoms, we may eliminate carbolic-acid poisoning.

He showed such slight signs of improvement that, on September 29, 1897, his stomach was washed out, first, with a solution of bicarbonate of sodium, and afterward with a solution of boric acid. A large quantity of thick, green, slimy mucus was brought away. The contents of the stomach were very sour-smelling. Two days afterward (October 1st) his feet began to swell; twenty-four hours later, bloating of the face occurred, and, to a slighter extent, the backs of the hands became noticeable.

The urine was reexamined: no albumin or sugar being found.

On October 6th his stomach was washed out, and on October 12th the swelling and puffiness of feet and face subsided suddenly after vomiting a large quantity of fluid matter, but returned to a less extent in a day or so. The patient became very drowsy and wished to sleep most of the time. His feet became painful and numb. The left foot was more swollen than the right. There was loss of sensation in the left foot and lower third of the left leg; none in the right foot or leg. There was slight œdema of the extensor surfaces of the hands and loss of sensation, except on the skin over the little finger of each hand. There was also some loss of muscular power. On October 17th the swelling of the feet was less, and there was a return of sensation in the left foot, except a small area over the instep. He said: There was a cloud in front of the left eye, and that he could not see a finger held in front of that eye, although he could if it was held to one or other side.

October 18th.—Optic neuritis present in left eye. Vision = fingers, three inches. R. E. = $\frac{20}{40}$.

Sensation has returned in the left foot, but he complained bitterly of tingling in both feet with coldness. The hands still continued numb. Weight, a hundred and twenty-three pounds.

Since October 18th his stomach had not been washed out, as he decidedly objected to the performance and blamed it for the untoward symptoms. A combination of guaiacol carbonate and bismuth subnitrate was then prescribed with satisfactory results, the "burning" feeling in his stomach, much complained of, being immediately relieved; had not vomited since October 12th.

On October 25th the right eye became affected. Vision from $\frac{20}{40}$ dwindled to fingers at three feet. Ophthalmoscopic examination showed optic neuritis.

30th.—Optic neuritis, both eyes; very slight œdema of the feet; coldness and tingling of the extremities much complained of. No vomiting or heartburn. Weight, a hundred and twenty-seven pounds.

November 8, 1897.—R. E. = fingers, six feet; L. E. = fingers, three feet. Optic neuritis showed signs of subsiding. Fields of vision taken. Still tingling and numbness of fingers and coldness of the extremities. No untoward symptoms from stomach.

December 2d. — Weight, a hundred and fifteen pounds. Appetite good, and no more heartburn or vomiting; still numbness of the hands and cold extremities. Sight improving, so that the patient could recognize acquaintances across the street. Atrophy of muscles of hand now distinguishable. Ordered strychnine and faradaic electricity.

13th.—Vision, R. E., $\frac{20}{70}$; L. E., $\frac{20}{100}$ ○ + D. 2 sph. = Sn. ii. Disc of left eye clearer, but yet some appearance of œdema. Disc of right eye clearer than left. Weight, a hundred and fifteen pounds. Numbness still of thumbs and two outer fingers of both hands. Still tingling and coldness of the feet.

January 4, 1898.—The patient when seen at this date looked well nourished and strong. The œdema had left his feet, as had also the sensation of tingling and coldness. Feeling and increased muscular power had also returned to his fingers, and the only complaint was that he could not see as well as formerly. His vision was R. E. = $\frac{20}{50}$; L. E., $\frac{20}{100}$. On ophthalmoscopic examination the left disc was seen to be pallid and the vessels smaller. That of the right not so marked. On taking the fields of vision the central scotoma in the left eye was much smaller. His weight was a hundred and twenty-two pounds, and his appearance had also changed, becoming bright and alert.

This case was evidently and clearly one of peripheral neuritis, including optic neuritis, following upon lavage of a dilated stomach and caused by the absorption of toxines.

Syphilis, lead, and alcoholism can be excluded, and the amount of carbolic acid taken in the first mixture can not be accused of having given rise to the after condition.

From the *British Medical Journal* of July 31, 1897: "We know other toxines in the blood produce asthma, uræmia, and gout, for instance, and we know that many of the toxines formed in the stomach affect the individual in various ways, some of them causing spasm and cramps, and others, as in Turck's experiments, causing paralysis." A reference to Turck's paper will be found in the *New York Medical Journal,* February 22, 1896.

Herschell, in his work on *Indigestion,* speaks of transient dropsy of the hands and feet. The deadness of the extremities is said to be caused by vascular enervation.

The following is condensed from Bouchard: Obscuration of sight, hemianopsia, diplopia, hallucinations, temporary aphasia, and many other symptoms due to toxine poisoning. Allbutt, who writes on dilatation of the stomach in Allbutt's *System of Medicine,* says that much of Bouchard's description, or rather his attributing all the nervous symptoms to self-intoxication, is exaggerated. There is no mention made in the article of neuritis, partial and fleeting dropsy of the limbs, or of deadness of the fingers from vascular enervation. Bamberger, although believing that self-intoxication is at the bottom of these accidents, says that reflex irritation and also desiccation of the tissues, will produce them. The most important desiccation is thickening of the blood.

I have to express my thanks to Dr. Allen Jones, who saw the case with me and who has kindly looked over the literature on the subject without finding a similar case reported.

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Therapeutical Notes.

Salicylate of Sodium in Toothache.—Dr. Frederick C. Coley (*Practitioner; North Carolina Medical Journal; Southern Clinic,* June) believes salicylate of sodium to be the best remedy in toothache arising from catching cold. A dose of fifteen grains will usually relieve the pain promptly, and if repeated every four hours the inflammation may entirely subside, leaving the carious tooth to be disposed of according to circumstances. Fifteen grains of sodium salicylate, with fifteen minims of tincture of belladonna, will often procure refreshing sleep instead of a night of agony. Dr. Coley's first experience of it was on his own person, and since then he has used it with many brilliant successes and few failures. It is especially valuable with children, where extraction of teeth is to be avoided, if possible, lest the development of the maxilla should be injured.

Hepatic Colic.—M. Fagio (*Progrès médical,* May 21st) recommends the following mixture:

℞ Chloroform water	3 ounces;
Neutral glycerin,	of each.. 5 drachms.
Orange-flower water,	

To be taken in three divided doses in the space of from two to three hours.

Methylene Blue in Gonorrhœa.—Dr. Orville Horwitz (*Dunglison's College and Clinical Record,* May) has had considerable success in acute gonococcal infection from the use of the following formula (beginning, however, with only one grain of methylene blue):

℞ Methylene blue	gr. j to ij;
Oil of sandalwood	gr. iij;
Oleoresin of copaiba	gr. iij;
Oil of cinnamon	gtt. j.

M. Dispense in capsule.

One capsule to be taken three times a day. Injections of potassium permanganate or irrigations during the early stage, and astringent injections later, are good auxiliary measures. Methylene blue turns the urine blue in color; it is of no use in non-specific urethritis.

Acetanilide as a Nerve Sedative.—M. Dujardin-Beaumetz (*Journal de médecine de Paris*) thinks this drug useful: 1. In pains of rheumatic origin, especially neuralgic and myalgic. 2. In pain due to the compression or alteration of nerves—*e. g.,* those of optic neuritis. 3. In pain due to medullary sclerosis, especially in "lightning pains." 4. In epilepsy. It may be administered without ill effects to the extent of from twenty-three to thirty grains daily, in divided doses of seven grains and a half, and the administration may even be prolonged for several months in non-febrile patients.

Zinc Glue for Surgical Dressings.—The following is advised (*Prescription; Kansas City Medical Index,* June) as a means of obtaining stiff surgical dressings for application to fractured or dislocated limbs:

℞	Zinc oxide	10 parts;
	Gelatin	30 "
	Glycerin	30 "
	Water	30 "

This is thickly applied and rubbed into the muslin or gauze forming the bandage. A thicker preparation contains twenty parts of gelatin and forty parts of water, the other ingredients remaining the same.

Treatment of Whooping-cough.—Marfan (*Lyon médical,* June 5th) recommends the following:

℞	Antipyrine	15 grains;
	Syrup of belladonna	6 drachms;
	Syrup of Tolu	3 ounces.

The initial daily amount recommended to be taken is—from birth to one year, from one to two teaspoonfuls; from two to three years, four teaspoonfuls; from five to ten years, six teaspoonfuls. The dose should be augmented daily by half a teaspoonful until either a diminution of the paroxysms occurs, or until intolerance is reached, as evidenced by dilatation of the pupil, dryness of the throat, etc.

The Treatment of Epistaxis.—According to the *Medical Summary* (*Western Medical Review,* June 15th), the injection of a glass syringeful of lemon juice into the nose, after it has been cleaned of clots, will stop bleeding after everything else has failed.

Enormous Renal Calculus.—M. Reynier (*Presse médicale,* June 4th) presented to the *Société de chirurgie,* Paris, a renal calculus weighing nine thousand seven hundred and fifty grains which he had removed from a man of sixty-two years. A diagnosis of cancer had been made, and all that the patient complained of was a hæmaturia ten years and a month prior to operation.

Chelidonium Majus in Cancer.—M. Legrand (*Presse médicale,* May 28th) communicated to the *Société de thérapeutique* of Paris a case of cancer completely checked by the local application of extract of chelidonium majus after Denisensko's method.

Generalized Favus.—M. Bayet (*Presse médicale,* June 5th) presented to the *Société d'anatomie pathologique de Bruxelles* a child afflicted for three years with generalized favus. On the head, the lesions were those of ordinary favus, but upon the body and the limbs they took the form of mushroomlike vegetations similar to those which develop on the trunks of trees.

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THE COMPRESSION TREATMENT OF PULMONARY TUBERCULOSIS.

The recent address of Dr. Murphy, of Chicago, before the Section in Surgery of the American Medical Association was a most notable contribution to the subject of pulmonary surgery. The address was read only in abstract, and it is to but one feature of it that we are now going to call attention, namely, the part relating to the treatment of tuberculous disease of the lung by compression of the organ. As we understand the matter, Dr. Murphy proceeds upon the assumption that a tuberculous lesion of the lung, like one of a joint, for example, may ordinarily be healed quite readily by securing immobility, functional rest, of the affected part. In pursuance of this idea he immobilizes the lung by compressing it, crowding it back upon its hilum, establishing a sort of artificial atelectasis. This he accomplishes by injecting a quantity of nitrogen into the pleural sac. Nitrogen, he finds, neither exerts any untoward effect upon the pleura nor is absorbed to any appreciable extent; it simply keeps the pleura distended and the pulmonary tissue compressed. It is said that during the continuance of this compression the patient feels remarkably free from the symptoms that had previously preyed upon him.

The gas is allowed to remain in the pleura for a period of several weeks, and then it is withdrawn. In a goodly number of instances the symptoms do not return, and the inference is drawn that the disease has been overcome. The lung again becomes aerated and expands almost if not quite to its normal size. If, on the removal of the nitrogen, the morbid symptoms return, more of the gas is thrown into the pleura and kept imprisoned there for another term of weeks. It is said that this second injection is by no means always found necessary, and that when it is called for it almost invariably suffices for the cure of the disease in that lung. Then the other lung is treated in the same way.

We have here given only a general outline of Dr. Murphy's plan of treatment. For the details, upon which much undoubtedly depends, the profession will have to wait until the address is published. One may picture to himself a number of difficulties in the way of success with this method of treatment, but not one of them seems to be insurmountable. The first that occurs to us is the task of passing the eye of a hypodermic needle through the parietal pleura without at the same time passing it through the visceral layer, provided there is no pleural effusion. It is pointed out, however, that the outer layer of the pleura is held firmly attached to the wall of the chest, while the pulmonary layer is free to yield before the pressure of a blunt-pointed needle, and so escape puncture. Still, we may suppose that adhesions in the immediate neighborhood of the puncture might seriously impair this evasive yielding of the pulmonary pleura. Nevertheless, whatever difficulties might be encountered in the attempt to make the eye of the needle pass the parietal pleura and stop short of the visceral in the ordinary way of inserting the instrument, they might all be overcome readily, we presume, by cutting down methodically and picking up the outer layer of the serous membrane with a forceps.

Another difficulty that has been suggested lies in the frequent presence of extensive pleuritic adhesions, so extensive as practically to abolish the potential cavity of the pleura. But this state of things, we understand, Dr. Murphy meets by breaking up the adhesions, a procedure which is no doubt thoroughly practicable in a great many instances. We have heard this further objection mentioned, that the preponderance of tuberculous lesions in the apex would render the majority of cases refractory. This, we presume, rests on the assumption that the compression exerted by the nitrogen would be subject to the limitations of that exercised by pleural effusion—an assumption that seems to us not wholly warranted. At all events, when so careful a man as Dr. Murphy has been experimenting with the treatment for three years, as we understand he has, and when he reports a number of cases of cure, all such theoretical objections as those we have mentioned must be held in abeyance until the distinguished author's full data have been laid before us and until the plan has had ample trial in his hands and in those of others. The present time seems to be an era of glorious possibilities in the treatment of tuberculous disease, and more than one of them, we think, will be realized. The chances are, it seems to us, that Dr. Murphy's ingenious plan will turn out to be one of those from which decided advantage may be derived.

MINOR PARAGRAPHS.

PORTABLE RATIONS.

It may not be amiss at the present juncture to call the attention of the authorities to the great advantage in warfare of keeping the men supplied with portable rations which can be carried in their haversacks. The success of the Germans in the Franco-German war has been attributed largely to the "*Erbswurst*" which the men carried, thus enabling the military commander to dispose of his men without being limited by the possibilities of the transport train. The German soldier got a meal whenever he halted; the Frenchman had to fight for days together on an empty stomach. Great Britain had an experience of a similar character in the last Afghan campaign, and in the Ashantee and Egyptian expeditions. The desirable quality *par excellence* in an army is mobility. Every detail of the transport and commissariat department is a burden upon the strategic powers of the general, however necessary. He is limited in all directions by every limitation on his powers of rapid movement. While, therefore, not neglecting the substantial advantages of an ample commissariat, he should not be handicapped thereby from executing rapid movements, and a portable four or five days' ration in the hands of every soldier, which needs only fire and water to make it palatable and nutritious, is of the utmost military advantage.

THE CONTROLLING MIND IN JOURNALISM.

The *Postgraduate* for June furnishes some remarks on a contemporary in which the following words occur: "A weekly medical journal has appeared in Philadelphia, which is nominally, at least, under the direction of the profession, and not of any publisher. Independence of discussion is supposed to be secured by this, but when we know that one individual dominates the journal, it will be pretty certain that his paper, after all, will be about as personal as are the publisher's weeklies, three of which we have in New York, unless his mind is of a very judicial quality, and unless there are weekly conferences of the board of contributors." Surely some influence must dominate every journal. Every journal must have an individuality, a policy, a continuity, whether it be that of "a publisher," a proprietor, or a body of them, a committee, or the editor, or a combination of these. There must be some limit placed to the amount of absurdity that is written, and therefore there must be a process of selection, and consequently some person or persons who are responsible for making that selection, whence it inevitably follows as a corollary that the influence of that selecting body will "dominate the journal." The question is one simply of degree, and the extent to which the process of selection is impaired by any preconceived bias for or against a particular line of thought. Would the editor of the *Postgraduate* throw open his columns for the adherents of homœopathy or Christian science, or the supporters of a proprietary and secret medicine, to air their views *ad libitum* before his readers? Or take any ordinary problem of the day. If it is a real problem, there are always good men advocating both sides of the question; and when they are good men, an impartial editor will give them a chance to have their say within reasonable limits on either side. But is he, therefore, to give his valuable space to the mediocre multitude for the reiteration of oft-refuted opinions, or, still worse, for the assertion of "cranky" ideas that would probably be laughed to scorn by all competent students of the question, no matter on which side their sympathies are enlisted? Certainly not. There must be some limits, he would say. Then, who is to fix the limits; who is to decide what has been conclusively refuted time and again, or what is too cranky to be worth taxing the reader's patience with? Whoever it may be to whom that responsible office is intrusted, will be held in a sinister sense by the person or persons whose views are rejected, to be "dominating the journal." There are only two possible economic conditions, organization and chaos; and while the former in the hands of an unfitted person may be faulty and unsatisfactory, the latter in any hands must prove fatal. Everything that is good, and therefore permanent, in all time has come from the influence of some dominant mind, and the same may be said of everything that is bad. A journal which is not dominated by some controlling mind would be worth nobody's reading. No editor is always right; but it does not take long for public common sense to recognize an influence which is on the average fairly correct; and an editor who rejected systematically really weighty contributions from recognized opponents of the views supported by his journal would soon lose prestige. But on what earthly ground can he be expected to make his pages a vehicle for special pleading of an inferior character from mediocrities, on behalf of a position for which the best arguments of its most competent supporters have failed to afford him satisfactory evidence?

THE SPANISH MILITARY MEDICAL SERVICE IN CUBA.

We can afford to be generous enough not to let our natural feeling against Spain at the present juncture blind our eyes to the one aspect of the Spanish occupation of Cuba which is extra-national—the services of the Spanish military medical officers—and take credit on behalf of the only cosmopolitan profession for their record as given by a special correspondent in the *Lancet* for June 11th. The writer thus closes an exhaustive report:

"Altogether, and for the entire medical military services of Cuba from the commencement of the insurrection to the middle of the year 1897, no less than six hundred surgeons have been engaged in attending to the sick and wounded. Of these, fifty have died in the accomplishment of their duty, the greater number being victims of yellow fever. Six dispensing chemists have likewise met with the same honorable fate. Twenty-five surgeons were wounded on the field of battle and four were killed. There can be no doubt that the military medical staff showed under the most trying and dangerous circumstances all the courage and heroism which have so often distinguished the Spanish people in general and the medical profession in particular."

While patriotism is limited by geographical confines, we should be proud as a profession to feel that professional zeal and loyalty are universal in their reach, and that the ever earnest contribution of even the humblest member affords an increment to the treasury of humanity.

AN INGENIOUS SUBSTITUTE FOR THE MURPHY BUTTON.

Rarely has there come to our notice so ingenious a mechanical device as the substitute for the Murphy button contrived by Dr. Ernest Laplace, of Philadelphia, which was shown at the recent meeting of the American Medical Association in Denver. It consists of two small forceps clamped together side by side. Each of the four blades terminates in a semicircular piece, and when the four blades are held together those terminations form a ring which serves the same purpose as the Murphy button in the performance of intestinal anastomosis. When the operation is finished, all but one final point of suture, the ring is decomposed by removing the clamp, and each forceps blade is withdrawn through the small opening previously occupied by the four shanks. This opening is then closed by means of a single suture. Blades ending in semicircles of various sizes are furnished with the instrument, to fit it for use in operations on intestines of any calibre. The instrument is described in detail in the *Philadelphia Medical Journal.*

INTRAPERITONEAL DIVERSION OF THE CEREBROSPINAL FLUID IN CASES OF HYDROCEPHALUS.

Before the Section in Neurology and Medical Jurisprudence of the American Medical Association, at the recent meeting in Denver, Dr. Alexander H. Ferguson, of Chicago, described a most ingenious method of lumbo-abdominal permanent drainage in the treatment of hydrocephalus. In brief, Dr. Ferguson's procedure is as follows: Enough of the arch of the fifth lumbar vertebra is removed to allow the operator to push the spinal cord to one side for the time being and drill a hole through the body of the vertebra into the peritoneal cavity at a point where there is little if any danger of injuring important structures. A piece of silver wire is bent upon itself into the shape of a compressed hairpin. This double wire is then bent laterally into a sigmoid form. The loop of the wire is passed through the hole drilled in the vertebra, and the free ends are allowed to lie in the spinal canal, extending downward along with the cauda equina. The external wound is then closed. We understand that Dr. Ferguson has resorted to this operation in two cases thus far. In the first case the child soon died. The cause of its death may have been too great freedom of the drainage, Dr. Ferguson is inclined to think. In the other case there was great relief of the symptoms, but in about three months, unfortunately, the child was attacked with broncho-pneumonia, which proved fatal. Obviously, the plan is worthy of further trial, for it provides for permanent drainage without the danger of sepsis that would probably be incident to the establishment of a fistula opening externally. It will be interesting to observe to what extent and for what length of time the wire will withstand the encroachment of granulation tissue sufficiently to maintain an adequate passage into the peritonæum.

ITEMS.

The Sixty-ninth Annual Meeting of the British Medical Association.—This gathering will be held at Edinburgh from Tuesday to Friday, July 26th to 29th inclusive, under the presidency of Dr. T. G. Roddick, professor of surgery in McGill University, Montreal, the incoming president being Sir Thomas Grainger Stewart, M. D., F. R. S. E., professor of practice of medicine and clinical medicine in the University of Edinburgh, and physician in ordinary to her Majesty the Queen for Scotland. America will be represented, according to the *British Medical Journal* for June 11th, by Dr. Bowditch, Dr. Musser, Dr. Osler, Dr. Sachs, and Dr. Turck.

Other countries will be represented as follows: From France: Dr. Blanchard, Dr. Brouardel, Dr. Comby, Dr. Doyen, Dr. Guiart, Dr. Magnan, and Dr. Meyer. From Germany: Dr. Baginsky, Dr. Ewald, Dr. Fehling, Dr. Joseph, Dr. Martin, Dr. Melchior, Dr. Mikulicz, Dr. Pistor, Dr. Quincke, Dr. Rosenbach, and Dr. Unna. From Belgium and Holland: Dr. Nuel, Dr. Rosenstein, and Dr. Snellen. From Austria: Dr. Benedikt. From Italy: Dr. Kurella, Dr. Morselli, Dr. Pestalozza, and Dr. Porro. From Switzerland: Dr. Dufour and Dr. Gamgee. From Denmark, Norway, and Sweden: Dr. Boeck and Dr. Rovsing.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 18, 1898:

DISEASES.	Week ending June 11.		Week ending June 18.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	9	5	25	2
Scarlet fever	195	16	142	17
Cerebro-spinal meningitis	0	7	0	7
Measles	339	20	334	22
Diphtheria	170	20	162	22
Croup	8	1	13	9
Tuberculosis	169	136	217	158

The Care of the Soldier's Feet.—Gerdeck (*National Medical Review,* June) recommends strongly the penciling of undiluted (?) formalin morning, noon, and night and next morning, though the more delicate skin should be treated but twice instead of four times. The shoe is then disinfected by dropping into it four to six drops of the same fluid, which preserves the leather. This process stops undue sweating without producing any constitutional injury, and prevents maceration of the epidermis, hardening the tissues.

Dr. Samuel Treat Armstrong, Acting Assistant Surgeon, United States army, has been appointed brigade surgeon with the rank of major.

A Pension for the Founder of the Red Cross Society.—According to the *North American Medical Review* for June, M. Henri Durant, the initiator of the Red Cross movement, being in straitened circumstances, has been awarded an annual pension of one thousand roubles (about five hundred dollars) by the Russian branch of the society.

The Late Dr. John Blair Gibbs.—At a meeting of the Society of the Alumni of Lebanon Hospital, held on Tuesday, June 14th, the following resolutions were passed:

Whereas, We have learned with profound regret of the death of Dr. John Blair Gibbs, at Guantanamo, Cuba, we feel that we should express ourselves in a manner whereby his memory may be honored. Not only has a vacancy been created among ourselves which can never be filled, but the medical profession has lost a true brother and the nation a son whose manliness, noble character, and zeal can never be questioned.

Whereas, We have constantly been indebted to him, while acting in the capacity of assistant attending surgeon at Lebanon Hospital, for valuable counsel and unfailing courtesy; therefore

Resolved, That, to perpetuate his name for his heroic conduct and as a token of our esteem and love, we erect a tablet in the operating room of Lebanon Hospital, and that these resolutions be entered in full in the minutes of the meeting.

Marine-Hospital Service Health Reports.—The following statistics concerning small-pox, yellow fever, cholera, and plague were received in the office of the supervising surgeon general during the week ending June 18, 1898:

Small-pox—United States.

El Paso, Texas	June 11	3 cases.	
Benwood, W. Va	June 4	1 case.	
Wausau, Wis	May 19	1 "	
Statesville, N. C	June 11	11 cases.	

Small-pox—Foreign.

Pernambuco, Brazil	April 15–23	1 case.	
Hong Kong, China	April 23–30	4 cases,	1 death.
Hamburg, Germany	May 21–28	1 case.	
Bombay, India	May 10–17		2 deaths.
Calcutta, India	April 30–May 7		7 "
Madras, India	May 7–13		5 "
Akita, Japan		2 cases.	
Awomori, Japan		27 "	8 "
Fukuoka, Japan		1 case.	
Fukushima, Japan		22 cases,	8 "
Hiogo, Japan		1 case.	
Ishikawa, Japan		2 cases.	
Iwate, Japan		5 "	
Miyazaki, Japan		24 "	7 "
Nagano, Japan		1 case.	
Nagasaki, Japan		1 "	
Nara, Japan		1 "	
Shidzuoka, Japan		2 cases.	
Tokushima, Japan		2 "	
Yamagata, Japan		2 "	
Yehime, Japan		3 "	
The Hokkaido, Japan		11 "	3 "
Moscow, Russia	May 7–14	2 "	3 "
Odessa, Russia	May 21–28	7 "	
St. Petersburg, Russia	May 21–28	14 "	3 "

Yellow Fever—United States.

McHenry, Miss	May 20–June 13	15 cases.	

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	April 30–May 6	78 cases,	54 deaths.

Cholera—Foreign.

Bombay, India	May 10–17		4 deaths.
Calcutta, India	April 30–May 7		16 "
Kanagawa, Japan	April 29–May 19	9 cases,	5 "
Okayama, Japan		1 case.	
Tokyo, Japan		6 cases.	

Plague—Foreign.

Bombay, India	May 10–17		107 deaths.
Calcutta, India	April 30–May 7		16 "
Taiwan (Formosa), Japan.	April 29–May 19	2,223 cases,	1,421 "

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Pathology, on Tuesday evening, the 21st inst., the following papers were to be read: Dsorokeratosis, by Dr. Grover W. Wende; and Myxœdema, by Dr. J. C. Clemesha. Dr. Charles E. Congdon was to exhibit pathological specimens.

The Late Dr. John Blair Gibbs.—A memorial service, a fitting tribute to the memory of our dead hero, was held in Trinity Church on Thursday, the 23d inst.

An Examination for Appointment as Bacteriologist.—The New York Municipal Civil Service Commission, whose office is in the new Criminal Court Building, at the corner of White and Centre Streets, gives notice that on Wednesday, June 29th, an examination will be held in the subjects of technical knowledge and experience. Candidates desiring application or further information should address the commission (Mr. Lee Phillips, secretary).

A New Theory of the Accidents Consequent on Excision of the Thyreoid.—M. Gibert (*Nouveau Montpellier médical,* May 14th) communicated to the *Société des sciences médicales de Montpellier* the case of a young woman affected with an enormous goître on whom a partial thyreoidectomy was performed. The patient died in twenty-four hours with very great hyperpyrexia, but without any tetanic symptoms. In seeking for an explanation of so rapidly fatal a termination, M. Gibert suggests that normally the thyreoid gland destroys the toxic products secreted by the organism. In certain cases these toxic products being secreted in great quantity, the gland undergoes a compensatory hypertrophy. The sudden removal of the gland therefore leads to intoxication.

The Passage of Intra-uterine Injections into the Peritoneal Cavity.—Dr. Döderlein (*Centralblatt für Gynäkologie,* No. 25, 1897; *Gazette hebdomadaire de médecine et de chirurgie,* June 5th) has been able to verify experimentally the passage of liquids injected within the uterus through the tubes into the peritoneal cavity.

An Epidemic of Cerebro-spinal Meningitis in California.—Dr. G. H. Brainerd (*Pacific Medical Journal,* June) communicated to the Medical Society of the State of California an account of an epidemic of cerebro-spinal meningitis in that State. Up to two months ago he had hoped that the climatic conditions were such as precluded the possibility of that disease in an epidemic form, but there is unmistakable evidence of an epidemic in San Bernardino and Los Angeles counties. After discussing what is known as to the ætiology, route of infection, conditions conferring immunity, pathology, etc., the author states that eight cases, of which six proved fatal, appeared at Needles, more than twenty in the town of San Bernardino, one case each at Redlands and Riverside, and two each at Chino and Azusa. He then reports eight cases, and states that he knows of no way in which the prognosis of that case can be determined during the onset of the disease. As to treatment, he remarks that from our present knowledge of the pathology of the disease it would seem as though we had to deal with an infection which is but short-lived, and the mischief wrought by it is in the early hours of the disease, while later in the disease we have to deal with the products of its action; hence his idea of the treatment has been to relieve the patient as much as possible from suffering, and to maintain strength by nourishing diet, keeping the skin, bowels, and kidneys as active as possible. Later in the disease the use of eliminants, especially the iodides, is indicated. With regard to lumbar puncture, although this is of unquestionable value in diagnosis—essential, in fact, for a positive diagnosis during life—the best that can be said of it as a curative measure is that it gives perhaps transient relief from pressure symptoms, and if properly performed does no harm. In the author's experience it has been very difficult to get the consent of patients or their friends to it in private practice.

Camphoric Acid in Night Sweats.—Dr. H. A. Hare (*Therapeutic Gazette; Pacific Medical Journal,* June) says that twenty grains of camphoric acid is usually sufficient to control night sweats, provided the dose is given early enough to be absorbed before the time at which the sweating occurs. It may be given in a cachet, dissolved in whisky or brandy, or placed in dry powder on the tongue and washed down with water or milk. It is said not to produce any disagreeable effects.

Gonorrhœal Septicæmia.—Dr. Miles F. Porter (*Fort Wayne Medical-Journal Magazine,* May), in a paper with this title, weighs the evidence for the existence of gonorrhœal septicæmia, and says that before the existence of gonorrhœal septicæmia can be granted it will be necessary to show that the gonococcus has the power of getting into the blood stream, and after getting there has the power to live and thrive in it. The following are his conclusions: 1. That the gonococci of Neisser are capable of living and propagating in the blood. 2. That gonococci may be carried by the blood or lymph stream to any of the tissues or organs of the body and, lodging there, may produce inflammation, which may be purulent or non-purulent, owing to circumstances not as yet understood. 3. That true progressive septicæmia is not infrequently due to infection by gonococci.

The Diagnosis of Typhoid Fever.—Dr. Leonard Weber (*Post-graduate,* April; *Medical and Surgical Bulletin,* May) thus summarizes the diagnosis of typhoid fever from the three diseases with which it is most apt to be confounded:

1. Tubercular meningitis: The temperature is not usually so high as in typhoid, the pulse at first not so frequent, and more tense; headache and vomiting occur early, the bowels are confined, the abdomen retracted. Squint, inequality of pupils, optic neuritis would be unmistakable signs.

2. Acute miliary pulmonary tuberculosis: More cough and soon abundant râles, impaired resonance and other signs of pulmonary infiltration; the temperature more sustained.

3. Gastro-intestinal catarrh of children: It may be difficult at first to distinguish it from typhoid, but there will be intermissions soon of fever, and changes of symptoms that are inconsistent with the diagnosis of typhoid.

The Abolition of Grief.—Dr. T. E. Townsend (*Practical Medicine,* June), in a paper on the Physical and Mental Effects of Grief, thus winds up: "Peace of mind—cheerfulness and contentment—is the foundation of all happiness, and when these conditions exist grief will not be known." Exactly so. Lucidity is the foundation of being lucid, and when this condition exists obscurity will not be known.

Resection of Urethral Stricture. — Baumgarten (*Centralblatt f. d. Krankh. d. Harn- u. Sex. Org.,* 1898, vol. ix, p. 119; *Gazette hebdomadaire de médecine et de chirurgie,* June 5th) reports a case in which a perineal section performed for removal of a vesical calculus in a man of thirty-three years with a filiform stricture was completed by resection of the strictured portion of the urethra with excellent results.

Health for Consumptives.—*Practical Medicine* for June quotes under the foregoing title some verses published under the heading of The Decalogue of the Tuberculous in the *New York Medical Journal* for April 30th, and credits them to "the *Journal.*" It is gratifying to find that this journal is so widely known that no more precise description is requisite.

The Cornell University Medical School, we learn, will occupy for the session of 1898–'99 the building formerly occupied by the Bellevue Hospital Medical College, also the Loomis Laboratory, pending the erection of a new building. The following appointments have recently been made on the teaching corps: Dr. Austin Flint, professor of physiology; Dr. Frederic S. Dennis, professor of clinical surgery; Dr. Samuel Alexander, professor of genito-urinary surgery; and Dr. Charles L. Dana, professor of nervous diseases.

Was General Blanco standing on his Head when he was Shot?—We ask this question because one of the press accounts says that he was shot "in the leg above the thigh."

Changes of Address.—Dr. Andrew F. Currier, to No. 128 East Thirty-fourth Street, New York; Dr. William S. Hubbard, to No. 97 Halsey Street, Brooklyn; Dr. F. T. Labadie, to No. 53 West Thirty-fifth Street, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 12th to June 18, 1898:*

Clendenin, Paul, Captain and Assistant Surgeon, is ordered to Jacksonville, Florida, for duty with the Seventh Army Corps.

Darnall, Carl R., First Lieutenant and Assistant Surgeon, will proceed to Tampa, Florida, and report to Shafter, William R., Major General, United States Volunteers, commanding the Fifth Army Corps, for duty.

Devereux, John R., Acting Assistant Surgeon, United States army, will proceed from Washington to Chickamauga Park, Georgia, and report to Carter, E. C., Major and Brigade Surgeon, United States Volunteers, in charge of the Leiter General Hospital, for duty.

Egan, Peter R., Captain and Assistant Surgeon, is ordered to Tampa, Florida, to report to Coppinger, John J., Major General, United States Volunteers, commanding the Fourth Army Corps.

Ewing, Charles B., Captain and Assistant Surgeon, will report to Wade, James F., Major General, United States Volunteers, commanding the Third Army Corps, Chickamauga Park, Georgia, for duty at Camp George H. Thomas.

Gonzalez, S. M., Acting Assistant Surgeon, United States army, will proceed to Tampa, Florida, and report for duty with the cavalry division.

Gorgas, William C., Captain and Assistant Surgeon, is ordered to report to the president of the examining board, New York, for examination for promotion.

Harris, Henry S. T., Captain and Assistant Surgeon, will report for duty to Lee, Fitzhugh, Major General, United States Volunteers, commanding the Seventh Army Corps, Jacksonville, Florida.

Kean, Jefferson R., Captain and Assistant Surgeon, is ordered to report for duty to Lee, Fitzhugh, Major General, United States Volunteers, commanding the Seventh Army Corps.

Kulp, John S., Captain and Assistant Surgeon, is ordered to Camp George H. Thomas, Chickamauga Park, Georgia, and will report for duty to Wade, James F., Major General, United States Volunteers, commanding the Third Army Corps.

Leale, Medwin, Acting Assistant Surgeon, United States army, is assigned to duty with the squadron of New York Cavalry Volunteers at Camp Alger, Falls Church, Virginia.

Lee, George B., Acting Assistant Surgeon, United States army, will proceed to Jacksonville, Florida, and report for duty to Lee, Fitzhugh, Major General, United States Volunteers, commanding the Seventh Army Corps.

Phillips, John S., Captain and Assistant Surgeon, having reported to the surgeon general of the army, is ordered to Camp Alger, Falls Church, Virginia, for duty with the Second Army Corps.

Polhemus, Adrian S., Captain and Assistant Surgeon, will proceed from Fort Wingate, New Mexico, to Chickamauga Park, Georgia, and report for duty with the Third Army Corps.

Powell, Junius L., Major and Surgeon, will proceed from Fort Riley, Kansas, to Mobile, Alabama, and report in person to Oates, William C., Brigadier General, United States Volunteers, Fourth Army Corps, for duty as chief surgeon on his staff.

Rafferty, Ogden, Captain and Assistant Surgeon. The order assigning him to duty in the general hospital, Key West, Florida, is revoked, and he will proceed to Falls Church, Virginia, and report for duty to Graham, William M., Major General, United States Volunteers.

Richard, Charles, Major and Surgeon, having reported in person to the surgeon general of the army, is assigned to duty in charge of the hospital train.

Shaw, Henry B., Captain and Assistant Surgeon, is ordered to duty at Key West Barracks, Florida.

Stiles, Henry R., Captain and Assistant Surgeon, having reported in person to the surgeon general of the army, will report in person for duty to Richard, Charles, Major and Surgeon, in charge of the hospital train.

Woodruff, Wylie G., Acting Assistant Surgeon, United States army, will proceed from Lawrence to Fort Riley, Kansas, and report in person to the commanding officer of that post for duty.

A board of officers to consist of Byrne, Charles C., Colonel and Assistant Surgeon General; Kimball, James P., Major and Surgeon; Hall, John D., Major and Surgeon, is appointed to meet at Governor's Island, New York, for the examination of such officers of the medical department as may be ordered before it to determine their fitness for promotion.

Society Meetings for the Coming Week:

Monday, *June 27th:* Medical Society of the County of New York; Cambridge, Massachusetts, Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *June 28th:* Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); Medical Societies of the Counties of Essex (annual—Elizabethtown), Lewis (annual), and Washington (annual), N. Y.; Richmond, Virginia, Academy of Medicine and Surgery.

Wednesday, *June 29th:* Auburn, N. Y., City Medical Association; Berkshire, Massachusetts, District Medical Society (private).

Friday, *July 1st:* Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

SATURDAY, *July 2d:* Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

Births, Marriages, and Deaths.

Married.

ARNOLD—HANLON.—In Westerly, Rhode Island, on Thursday, June 16th, Dr. Frederick Loveland Arnold and Miss Nellie Josephine Hanlon.

BERGTOLD—SMITH.—In New York, on Monday, June 20th, Dr. William Henry Bergtold, of Denver, and Miss Adele D. Smith.

BROWN—COWDREY.—In Edgewater-on-the-Hudson, N. Y., Dr. Samuel A. Brown, of New York, and Miss Charlotte Cowdrey.

DWYER—DUNNING.—In Lanesboro, Pennsylvania, on Wednesday, June 15th, Dr. Daniel Dwyer and Miss Gretta M. Dunning.

KLEBS—FORBES.—In Milton, Massachusetts, on Tuesday, June 14th, Dr. Arnold Carl Klebs, of Chicago, and Miss Margaret Forbes.

MATHEWSON — WINEGAR. — In Bath, N. Y., on Wednesday, June 15th, Dr. Deyo P. Mathewson, of Avoca, N. Y., and Miss Elizabeth Winegar.

PEIRSON — SHREVE.—In Salem, Massachusetts, on Saturday, June 11th, Dr. Edward Laurence Peirson and Miss Genevieve Shreve.

PHELAN—NEWLIN.—In New York, on Wednesday, June 15th, Dr. D. J. Phelan and Miss Josephine Francis Newlin.

POTTER — GREGORY — In Englewood, N. J., on Wednesday, June 15th, Dr. La Forest Potter, of Malden, Massachusetts, and Miss Jane Gregory.

SALTER—MACNAUGHTON.—In Morristown, N. J., on Wednesday, June 15th, Dr. William Holmes Salter, of Duluth, Minnesota, and Miss Helen Geddes MacNaughton.

STANDISH—ADAMS.—In Baltimore, on Wednesday, April 14th, Dr. J. Hubert Standish, of Hartford, Connecticut, and Miss Nettye Grace Adams.

WHEELER—WHITNEY.—In Boston, on Friday, June 10th, Dr. David E. Wheeler, of New York, and Miss Mabel B. Whitney.

Died.

BROWN. — In Everett, Massachusetts, on Friday, June 10th, Mary E. Brown, wife of Dr. Roscoe E. Brown.

CUNNINGHAM. — In Newport, Rhode Island, on Tuesday, June 7th, Angelique L. V. Cunningham, wife of Dr. Edward L. Cunningham.

DERAISMES.—In Weehawken, N. J., on Saturday, June 18th, Dr. Edward J. Deraismes, in the thirty-ninth year of his age.

FISKE. — In Cambridge, Massachusetts, Ralph Browning Fiske, son of Dr. John Fiske.

GRAINGER.—In East Boston, Massachusetts, on Friday, June 10th, William H. Grainger, son of Dr. William H. Grainger, in the twenty-third year of his age.

MCCOLLOM.—In Brooklyn, on Friday, June 17th, Marion D. McCollom, daughter of Dr. William McCollom.

PAGE.—In Philadelphia, on Sunday, June 19th, Dr. Richard Channing Moore Page, of New York, aged fifty-eight years.

SPALDING.—In Cornwall, N. Y., on Sunday, June 19th, Mary E. Spalding, wife of Dr. Warren C. Spalding, of New York.

Letters to the Editor.

FURTHER PARTICULARS CONCERNING THE PLANT HUSA AS A CURE FOR THE OPIUM HABIT.

FORT WORTH, TEXAS, *May 18, 1898.*

To the Editor of the New York Medical Journal:

SIR: In a former communication I stated the singular manner in which husa was discovered, and I beg now to be permitted to explain the only way in which it can be obtained. So far as now known, husa is found only in the Everglades of Florida. This is a tropical wilderness where vast stretches of stagnant tepid water teem with low forms of life, and poisonous insects, tarantulas, centipedes, scorpions, sand flies, mosquitoes, and saurians of every variety, from the fourteen-foot alligator to the small lizard, abound. Poisonous serpents of every kind are found everywhere in the dense jungle of matted vines, canes, rushes, saw-grass, palms, strange fungi, rare orchids, and the rest of a rich but little-known flora. Without roads, paths, or trails, the compass is the only guide, and even that is safe only in the hands of the experienced woodsman. Under such conditions no manufacturer has yet been found with capital and energy sufficient to conquer these obstacles and to give this drug to the profession.

I am entirely dependent for the little I get on two plume-bird hunters who hunt in the glades. I have to be satisfied with what amount they see fit to collect, and pay on the spot what they demand or the entire lot goes into the river—it is as they say or nothing. When these men have money they can not be induced to work at any price; but when "dead broke," hungry, credit gone, they will do anything. Besides these difficulties, the only way to get the herbs out of the glades, after they have been picked, is by open boat or skiff. Then, if the plants get wet or bruised or detained on the way, they are not fit to use. Many entire boat loads have been lost from this cause alone. Owing to these circumstances, any preparation of husa is costly. I find it varying, in my small way, from twenty-five cents to forty or forty-five cents an ounce, and at no time have I ever had as much as ten gallons at one time. I have let physicians have it freely at about cost. Only physicians have had it from me. I have never let a layman have any at any time. All my knowledge of the plant and its uses has been derived exclusively from medical men.

Nearly eight hundred physicians have since its discovery, in 1888, used husa as a cure for the opium habit, a large percentage of whom have cured themselves. From the experience of these men it would seem that the most successful way to cure these cases is to regard them as cases of narcotic poisoning and treat them as such. A man using morphine daily for years has his entire system narcotized—poisoned in fact. Now, to effect anything deserving the name of cure, it is quite evident that this poison must be eliminated from the system before such claim can be allowed. This is the whole case—the rationale of it—it is here that husa comes in; it fully sustains the patient without pain or suffering of any kind while the treatment is devoted to promoting this elimination. As the elimination proceeds, so, *pro rata,* does the cure; the husa stimulates but does not narcotize. Any drug that stimulates or has a pleasant effect on the patient is apt to be used to excess and even injury, for the express purpose of producing this effect. Therefore in prescribing husa the potency of the medicine should be changed every third day, thus preventing the patient from forming what we might call a husa habit. Nothing should be left to the discretion of the patient. The dose must be adapted to the physical condition of the patient—his needs, the duration of the habit, the amount used in twenty-four hours, and the mode of taking it, whether *per os* or hypodermically, must all be considered in making the prescription. The treatment must meet the needs of the patient. The husa will sustain him; he will not ask for morphine or need it. At the same time we use every means to promote elimination of the poison and aid the nerves to regain their normal tone. It takes about ninety days for Nature to rid herself of the effects of years of narcotizing. Old men of thirty-five years' addiction and taking eighty grains of morphine daily have been cured in four months without hitch or pain by this treatment. I am stating nothing but an actual fact when I say that I have never known a failure where husa was used, and if I were practising medicine now I would not hesitate about guaranteeing a cure in any case whatever. I may here state that I retired from practice fifteen years ago, and am now too old to give this matter the labor it requires. I shall be quite satisfied if I can be the means by which this drug can be put within the reach of the physicians of the country. To this end I will aid all I can.

The plant husa is about three inches long, of a dirty whitish-green color, and has a small white ball-like formation at the top, looking exactly like a small cauliflower. It grows at the roots of palms and other trees in moist places, in clumps. It has an acrid taste when chewed in a recent state. The tincture, according to the strength, is a diffusive stimulant, causing a gentle excitement to pervade the entire system, making one inclined to talk, laugh, and "have fun." The active principle, husin, consists of white, very light, flocculent, minute crystals which agglomerate into lumps when exposed to the air. It is poisonous as atropine or strychnine, one fortieth of a grain causing violent beating of the heart as though it would pump itself through the thorax. The blood rushes through the blood-vessels with a resilient sweep that can be followed; everything seems to sweep along in great undulating cycles. Nothing is stationary. One seems to get a view and a grasp of vast forces of Nature sweeping, rushing, tumbling like billows or vast cloud masses from some immense power or force that seems conscious and near by. The mind seems to stand and judge. The person says to himself: "It seems as though this was not new. I have seen all this before." The mind seems to dominate all this. After this stage subsides, which it does slowly, then quiet and languor supervene; the skin is moist, and every muscle soft and relaxed; then comes a quiet sleep. Husin is almost a specific in tetanus; mixed with the South Carolina horse nettle, it acts almost on the instant, the jaw opening with ease. I have seen this effect three different times. I have had reports from other physicians of many other properties, but it is as a cure for the opium habit that I know most about it. So far as I am able to judge, I do not see what more one can ask for. The opiate is stopped when the use of husa begins. Only enough of the latter is given to sustain the patient while Nature builds up the system again. This it surely does without cavil or doubt. Where there is failure it must be the patient's own fault, a desire on his part not to be cured. Only this can prevent its success. The dose of husa can be such as to produce any degree of exaltation, but that would not only be needless but wanton and foolish. Where the dose is adapted to the requirements of the case, the cure will follow without any suffering on the part of the patient. I shall feel quite repaid if the publishing of these facts will induce some manufacturer to put a preparation on the market at a price within the reach of all victims, and I shall aid such with all the knowledge I possess on the subject. I have never yet refused any physician the drug when I had any, and I hope never shall, but it is not within my power to go into this matter as a business, nor do I desire to do so.

Hoping I have herein answered the inquiries sent me by readers of the *Journal,* I remain fraternally yours,

W. W. Winthrop, A. M., M. D.

THE TREATMENT OF MALARIAL FEVER.

Rai Bareli, Oudh, India, *May 13, 1898.*

To the Editor of the New York Medical Journal:

Sir: A letter in your issue of January 15, 1898, written by Dr. Nanjandu Row, Madras, has led me to write a few lines on the subject. I have treated over forty thousand cases of malarial fever in different parts of India, but this communication has particular reference to upper Assam, where over sixteen thousand cases passed under my hands in five years. I had full notes of the principal cases, but the destruction of my bungalow by fire not only destroyed my property, but also all my medical notes, the labor of years. I am writing from memory, but I trust that the methods I adopted will prove useful to many of your readers.

The types of disease met with in Assam are: (1) quotidian, (2) tertian, (3) quartan, (4) weekly, and (5) fortnightly—enumerated in the order of their frequency.

In all recent cases the following mixture was given except when diarrhœa was present:

℞ Magnesium sulphate...........	½ ounce;
Solution of ammonium acetate..	1 "
Quinine sulphate..............	15 grains;
Camphor water, enough to make	8 ounces.

M. S.: Two tablespoonfuls every four hours.

Occasionally the treatment was started by a brisk purge, calomel and jalap by preference.

If diarrhœa was present, opium and quinine were given, preceded by a warm draught of rhubarb, soda, and ginger with a carminative.

In ninety per cent. of the cases this method of treatment was successful, and in most cases a second attack of fever did not come on.

In chronic cases I prescribed:

℞ Magnesium sulphate.........	2 drachms;
Quinine sulphate............	12 grains;
Iron sulphate...............	6 "
Dilute sulphuric acid........	2 drachms;
Tincture of ginger..........	3 "
Camphor water, enough to make	12 ounces.

M. S.: Two tablespoonfuls two or three times a day.

It was administered with but few failures. In cases where quinine failed, arsenic, arsenic with quinine, iodine in the form of tincture or that of Lugol's solution, iodide of potassium, and chloride of ammonium were used with great benefit. Many a case have I cured with the simple decoction of lime or lemon, made as follows: Two small limes or one lemon must be cut up into bits, skin, seeds, etc., and placed in a vessel containing twelve ounces of water. This has to be boiled until the contents are reduced by half (it should be done in the evening). The vessel is then removed from the fire and kept covered all night. Early in the morning it has to be strained and administered on an empty stomach, with or without sugar.

Warburg's tincture is often very effective.

I administer the quinine mixtures whether there is fever present or not. In Assam, practitioners found by experience that to wait for the fever-free stage was to wait for dissolution. I have adopted the above-described methods of treatment since 1882, with marked success.

By chronic malarial fever I mean fever which occurs in any of the forms noted above, and where the temperature does not exceed 101° F. At times, malaise, a feeling of laziness, yawning, pains and aches, without a rise of temperature, indicate that malaria is at work. In these cases the mixture of sulphate is a *sine qua non.*

In cases where there is vomiting, creosote and quinine, in pills, with an effervescent draught or a wineglass of champagne, are of great use.

The diet must be carefully attended to—soft and nourishing food must be given. Meat and solids are to be avoided so long as there is a rise in temperature. Before closing I must apologize for this disconnected communication and trust that, if it finds a place in your journal, it will be of use to some of your numerous readers.

E. J. Simpson, L. R. C. P. E., etc.,
Civil Surgeon.

Book Notices.

BOOKS, ETC., RECEIVED.

Twentieth Century Practice. An International Encyclopædia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M. D. In Twenty Volumes. Volume XIV. Infectious Diseases. New York: William Wood and Company, 1898. Pp. v–3 to 602.

Outlines of Medical Jurisprudence for India. By J. D. B. Gribble, M. C. S. (Retired), and Patrick Hehir, M. D., F. R. S., F. R. C. S. E., B. Sc., Fellow of the Royal Institute of Public Health, etc. Fourth Edition, revised and corrected. Madras: Higginbotham & Co. Calcutta: Thacker, Spink, & Co. Bombay: Thacker & Co., 1898. Pp. xxv–498.

Yellow Fever. Clinical Notes. By Just Touatre, M. D. (Paris), former Physician-in-Chief of the French Society Hospital, New Orleans, etc. Translated from the French by Charles Chassaignac, M. D., President of the New Orleans Polyclinic, etc. New Orleans: New Orleans Medical and Surgical Journal, Ltd., 1898. Pp. xiv–206.

Rheumatoid Arthritis: Its Pathology, Morbid Anatomy, and Treatment. By Gilbert A. Bannatyne, M. D. Glas., M. R. C. P. Ed., Hon. Physician to the Royal United Hospital and to the Royal Mineral Water Hospital, Bath. Second Edition. Illustrated. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent, & Co., Ltd., 1898. Pp. xii–182. [Price, 7*s.* 6*d.*]

Records of Urinary Examinations. A Convenient, Practical Method for Keeping Records of Urinary Examinations for Future Reference in Hospital or General Practice. Arranged by Harry Morell, M. D., C. M., Trinity University, Toronto. Hartford, Connecticut: J. B. Burr & Company, 1898.

Mittheilungen aus der Augenklinik des Carolinischen medico-chirurgischen Instituts zu Stockholm. Herausgegeben von Dr. J. Widmark, Professor der Augenheilkunde am Carolinischen medico-chirurgischen Institut zu Stockholm. Erstes Heft. Mit einer Tafel und vier Abbildungen im Text. Jena: Gustav Fischer, 1898. Pp. 251. [Preis, 7 Marks.]

Handbuch der Therapie innerer Krankheiten in sieben Bänden. Herausgegeben von Dr. F. Penzoldt, Professor in Erlangen, und Dr. R. Stintzing, Professor in Jena. Zweite theilweise umgearbeitete Auflage. Zwölfte Lieferung. Mit 30 Abbildungen im Text. Elfte Lieferung. Mit 4 Abbildungen im Text. Jena: Gustav Fischer, 1898.

The Forty-ninth Annual Report of the Board of Trustees and Superintendent of the Central Indiana Hospital for Insane. For the Fiscal Year ending October 31, 1897.

Bureau of Animal Industry. By D. E. Salmon, M. D., Chief. United States Department of Agriculture.

Meadows and Pastures: Formation and Cultivation in the Middle Eastern States. By Jared Smith, Assistant Agrostologist. Farmer's Bulletin No. 66. United States Department of Agriculture.

Some Essentials in Beef Production. By Charles F. Curtiss, Director of the Iowa Agricultural Experiment Station. Farmer's Bulletin No. 71. United States Department of Agriculture.

Cattle Ranges of the Southwest: A History of the Exhaustion of the Pasturage and Suggestions for its Restoration. By H. L. Bentley, Special Agent in Charge of Grass Station at Abilene, Texas. Farmer's Bulletin No. 72. United States Department of Agriculture.

Milk as Food. Prepared in the Office of Experiment Stations. Farmer's Bulletin No. 74. United States Department of Agriculture.

A Preliminary Arrangement of the Species of the Genus Bacterium. By Frederick D. Chester. [Reprinted from the *Ninth Annual Report of the Delaware College Agricultural Experiment Station.*]

The Surgery of the Gall Bladder and its Ducts. By H. O. Walker, M. D., of Detroit. [Reprinted from the *Medical Age.*]

The Expenditure of Electrical Energy. By Margaret A. Cleaves, M. D. [Reprinted from the *Transactions of the American Electro-therapeutic Association.*]

Abdominal and Pelvic Surgery. By William H. Wathen, M. D., of Louisville. Extracts from Clinical Lectures and Society Transactions.

Chemical and Urotoxic Investigations of Fatigue in the Human Subject. By S. Bookman, M. A., of Utica. [Reprinted from the *State Hospitals Bulletin.*]

Detection of Fœtal Heart Murmur *in Gravida,* with a Report of a Case. By J. N. Hall, M. D., of Denver. [Reprinted from the *Archives of Pædiatrics.*]

Miscellany.

The Cataphoric Treatment of Cancer. — Dr. G. Betton Massey (*Virginia Medical Semi-monthly,* June 10th), in a paper before the Medical Society of Pennsylvania, thus describes the general principles of this method of treating cancer: Briefly stated, the method consists in the interstitial dissemination of the nascent oxychloride of mercury, or of the mixed oxychlorides of zinc and mercury, throughout the growth, by radiant cataphoresis. The patient is placed under the influence of ether, and an electrode of gold covered with mercury, or one of zinc and mercury, is inserted into the growth, with large dispersing pads placed on a distant part of the body. Sufficient current is now passed through the growth from the active electrode in its middle to spread the nascent oxychloride produced by erosion of this electrode throughout the tumor and its ramifications, resulting in interstitial death of the cancer germs and a portion of the stroma, and a final healing by granulation of the site of the growth. To do this, strong currents are required, and a duration of the application appropriate to the extent of the growth, every effort being made to destroy all germs in one application. The current strengths will vary from three hundred and fifty milliampères in small growths to fifteen hundred in large ones, for periods varying from fifteen minutes to half an hour.

The Effect of Asparagus on the Odor of the Urine. —The very disagreeable odor communicated by the eating of asparagus to the urine of some individuals may, according to Dr. Carlas (*Gazette hebdomadaire des sciences médicales de Bordeaux; Echo médical du Nord,* June 5th), be prevented by placing in the vessel some centigrammes of corrosive sublimate or other soluble salt of mercury, or even a crystal of sulphate of copper. This knowledge will perhaps give satisfaction to some people who abstain from eating asparagus on account of the odor referred to.

Chloroform versus Ether.—Dr. Isaac Ott (*Medical Bulletin,* June), in his valedictory address to the graduating class of the Medico-chirurgical College, of Philadelphia, thus sums up the recent admirable researches of Dr. Waller, of London:

At the recent meeting of the British Medical Association the profession has received more information upon the action of the anæsthetics.

Dr. Waller arrived at the following conclusions: Using ether and chloroform at various definite degrees of concentration, the action of chloroform was seven times stronger than that of ether. The action of mixtures of ether and chloroform is cumulative: the sum of the action of the two constituents. Carbon dioxide, *per se,* does not increase, but rather diminishes, the prolonged action of chloroform. He admits that in the numerous deaths from chloroform the patient is not concerned, if he is to die, whether his heart stops first or his respiration. He states that there are two horns to the dilemma: viz., that these deaths are the result of an agent dangerous under all circumstances, or of an agent dangerous only when not skillfully given.

Then he holds: 1. If chloroform is dangerous under all circumstances, it may not be employed in minor surgery. Death in this class of cases is therefore unjustifiable and should be considered as a criminal offense. 2. If chloroform is dangerous only when not properly given, then death by chloroform is unjustifiable and ought to be considered a criminal offense. He believes there can be no escape from one or the other of these alternatives. He concludes that chloroform is a dangerous agent, to be used only on serious grounds, and not to be employed as a routine drug in all kinds of cases simply on account of its superior convenience.

The Country Doctor. God Bless Him.—Under this heading Dr. Thomas M. Riddick, of Woodville, North Carolina, sends us the following:

"Haste, doctor, haste to see my son,
  Or he will quickly die.
His race in life is almost run,
  Which makes his mammy cry.
With head and tail raised in the air,
  We rush to see the splutter,
But afore we safely landed there
  We found we'd lost our butter."
Dr. Ratthead.

Such is the picture of the country doctor as he speeds on his errand of mercy, in the midnight hour, to perform the noble and Godlike mission of healing the sick. Nothing daunts him. Self is forgotten. Though the floodgates of heaven be open and the tempest rage, he is ever responsive to the call of duty. A superb spirit of self-abnegation, an exalted philanthropy, a deep-feeling and far-reaching humanity are the forces that impel him. Greater love than this hath no man.

"When fever burns or ague freezes,
Rheumatics gnaw, or colic squeezes,"

he it is who relieves the agony of pain, averts impending death, and brings in the sunlight of health and hope where disease and despair had cast their baneful, depressing shadows.

When the fond father and devoted mother have kept their faithful and tender vigil, through many long and weary nights of sorrow and suffering, by the bedside of a stricken loved one; when they have hugged the fond delusion of hope until hope itself has fled, and the raven wings of the angel of death are about to cast their grewsome shadows around the sacred hearthstone of a once happy household, who is it that repels, with his own strong arm, the shafts of the insatiate archer? (Do not think of Davy Crockett, gentle reader.) Who is it that brings joy and hope to hearts that are desolate and aching? It is the country doctor. What a citadel of strength he is in time of trouble, when suffering is great and danger nigh!

Of all the earnest workers in life's rugged battle there is no hero in the strife who toils more earnestly for the relief, the betterment, and material advancement of his kind than he. He visits alike, with ready, willing step, the palace of the magnate and the hovel of the pauper. He goes as an angel of mercy, bearing strength and healing in his wings, into those squalid haunts where misery and wretchedness are the unhappy heritage of the ill-starred inmates, and where dire want is the cruel regent that sways a tyrant's sceptre over the unhappy wretches that crowd his dirty dominion. Patient, long-suffering, self-sacrificing, generous to a fault with his scanty hoard, he fills the rôle of a martyr in a worthy cause, and exemplifies the highest virtues that give nobility to human character.

Who so fearless in braving danger as he, when with a rickety and tinkling rig, and a blind, well-spavined horse, he plunges into the Egyptian darkness of the midnight hour, 'mid the wailing of the elements, in order that he may guard the sacred treasure of a human life committed to his protection and keeping? Who so gentle and tender as he when misfortune lays the hand of sore affliction upon some worthy wight? Surely he demonstrates beyond all cavil that

> "There is in every human heart
> Some not entirely barren part,
> Where flowers of richest hue may blow,
> And fruit in glorious sunlight grow."

Yet it is a sad commentary upon human nature that these acts of beneficence are too often unappreciated and abused. The compensation of the good doctor is too often *nil*, save in the satisfaction that comes of duty well performed, of relief given to suffering humanity in the hour of peril. His surroundings, for the most part, betoken an empty treasury and an impaired credit. His vehicle is often weather-beaten and *blasé*, and suggests the necessity of an accident policy.

> Farewell, dear doc., farewell,
> 'Tis painful to my heart
> To see thy only chance to ride
> Is that old worn dogcart.
> Methinks I see thee now,
> With axle-tree all broke,
> And wheels with nary a hub at all,
> And hubs with nary a spoke.
> But, though the mud be deep,
> Thy wits will never fail,
> That faithful nag will pull thee out,
> If thou wilt hold his tail!

Napoleon and his army with banners; Cæsar with his legions, and the Roman eagle as the ensign of his prowess; Alexander with the invisible phalanx of Macedonia, never achieved so much upon the field of carnage and strife to merit the victor's chaplet as have Marion Sims, Ephraim McDowell, and Robert Battey at the couch of the sick and suffering! At one time they were all country doctors, and carried on their persons the grateful aroma of new-mown hay.

Ian MacLaren has given us, in the beautiful character of Dr. William MacLane, a sublime picture of moral heroism before which even kings and potentates might bow the knee of homage and humble adoration, but the animate counterpart of that old hero can be found in many an obscure place, remote from that high station where " Fame's proud temple shines afar."

Speed the day when the laity at large shall pay to the country doctor that homage and veneration which are justly his due, and when they shall deal with him in that equity which counts the laborer worthy of his hire!

But, after all, there is a compensation. It is a noble thing to work for others, to forget one's self, to do the generous, magnanimous thing for the unfortunates in life. Every noble deed is a step toward God. In no way can we more fully exemplify the teachings of the Great Physician who spent his life in going about and doing good. It should be a source of enthusiasm and earnestness to every medical man to know that, *in the most practical, effective way,* he is a true follower of the Master, and that when the cares and labors of a busy, well-spent life shall have been laid aside he will merit that welcome plaudit:

"Come unto me, all ye that labor and are heavy laden, and I will give you rest."

"Inasmuch as ye did it unto the least of these little ones, ye did it unto me."

Iodoform-Ether Injections in Local Tuberculosis.—M. Kirmisson (*Progrès médical,* May 28th) showed a young girl to the *Société de chirurgie* who had been the subject of fungous arthritis of the knee. She had an enormous cold articular abscess. Treatment by puncture followed by injection of iodoform-ether resulted in almost complete cure.

Pneumococcic Arthritis.—M. Widal and M. Lesnée (*Progrès médical,* May 21st) communicate an observation of a man attacked with arthritis of the sternoclavicular articulation of pneumococcic origin, as was proved by examination of pus drawn therefrom. There was smart fever for a brief time. Cure was spontaneous. The authors consider that the pneumococcic disease located itself there probably because the joint was already rheumatic.

An Epidemic of Infantile Paralysis in One Family.—Dr. Pasteur (*Archives de médecine des enfants,* June) has narrated to the Clinical Society of London the case of seven children in one family attacked in the space of three weeks with fever and headache. In three of the children, aged respectively eleven, nine, and five years, paralytic symptoms followed within seven days of the invasion. The type of paralysis varied. In one there was atrophic paralysis of the left arm; in another, right hemiplegia with marked and persistent rigidity of the arm and thigh, and transient paralysis of the face and velum palati of the same side; in a third, paralysis with limited rigidity in the left lower limb. In two children the primitive fever was followed by rigors for some days; the last two showed no nervous phenomena. Eruptive fevers, diphtheria, and influenza could all be excluded from the causation. The analogy with infantile paralysis justified the diagnosis of this disease, notwithstanding the unwonted symptoms observed. The case proves, in the author's opinion, that the poison which in some cases produces infantile paralysis can, in others, induce various nerve troubles, and confirms the view of the infectious character of infantile paralysis.

The Inoculability of Malignant Disease.—According to the *Indépendance médicale* for June 1st, M. Bosc and M. Vedel have succeeded in inoculating a rabbit with cancer from the human being, and also a guinea-pig and a dog with melanotic sarcoma.

Military Massage.—We learn that the German Reichstag (*Journal de médecine de Paris*) has voted a credit of three thousand marks (about $750) for the training of military surgeons in practical massage.

Transplantation of the Ovaries.—Dr. E. Knauer (*Centralblatt für Gynäkologie,* 1898, No. 8, p. 201; *Gazette hebdomadaire de médecine et de chirurgie,* May 22d) communicates the results of his experiments in extirpating the ovaries aseptically and transplanting them to some other portion of the peritonæum. On killing the animals subsequently, he found not only that the ovaries were grafted on to the peritonæum, but that they continued to fulfill their normal functions—viz., the development and maturation of ovules. In one case a rabbit so treated, being put to the buck thirteen months after operation, became pregnant, and was delivered of two young ones, a male and a female, which were in all respects normal.

Representation of Dental Surgery on the British General Medical Council.—We learn from the *Philadelphia Medical Journal* for June 11th that Mr. C. S. Tomes, F. R. S., has been chosen by the Privy Council as a Crown representative on the General Medical Council. This will give indirect representation to the dental profession.

An Old-time Removal of the Stomach.—At the Denver meeting of the American Medical Association Dr. P. S. Conner, of Cincinnati, reported an entire removal of the stomach performed fifteen years ago. The patient died. No account of the operation was ever published. Dr. M. L. Harris, of Chicago, also reported that he had removed the entire stomach from a man aged seventy one year ago. In this case also the result was fatal.

Monument at Boulogne to Duchenne.—We learn from the *Journal des sciences médicales de Lille* for May 28th that a movement is on foot, having at its head Dr. Hamy and Dr. Aigre, mayor of Boulogne-sur-mer, to erect a monument to the renowned Duchenne in his native town.

The Infectiousness of the Urine in Typhoid Fever.—Petruschky (*Centralblatt für Bakteriologie,* 1898, vol. xxiii, p. 580; *Philadelphia Medical Journal,* May 28th) relates the following extraordinary case:

A typhoid patient in semi-stupor, during the absence of his nurse, voided his urine into a bottle containing champagne resting on a neighboring table. Some time later, in pouring out the fluid for the purpose of giving the patients some of the champagne, the nurse was struck with its turbid appearance. Deciding to taste it before administration, she failed to detect anything unusual until she had swallowed a portion. The nature of the mixture was now discovered, and, although vomiting followed, yet she developed typhoid fever after an incubation period of twelve days.

The "Dr. Gari Prize" for an Essay on Tuberculous Cystitis.—According to the *Philadelphia Medical Journal* for May 28th, the Royal Academy of Medicine and Surgery, Barcelona, will award the "Dr. Gari Prize" next year for a paper on A Clinical Study of Tuberculous Cystitis; its Clinical Tableau and Treatment. Three thousand francs will be given for the best essay and one thousand for the second best. The essays, which may be in Spanish, French, or Italian, must be sent to the Academy, Baños Nuevos, No. 9, Barcelona, before September 30, 1899. No essay may be in the author's handwriting or contain his name, but each must bear a motto and must be accompanied by a sealed envelope bearing the same motto and inclosing the name and address of the author. No prize will be awarded unless in the opinion of the judges sufficient merit is shown.

Syphilis of the Stomach.—M. Dieulafoy (*Progrès médical,* May 28th) arrives at the following conclusions in a paper presented to the *Académie de médecine:* 1. Syphilis of the stomach is not so rare as is commonly supposed. 2. The syphilitic lesions of the stomach are found in various forms: hæmorrhagic erosions, ecchymoses of the mucosa, gummatous infiltration of the submucosa, gummatous plaques, circumscribed gummata, gummatous ulcerations, cicatrices of gummatous ulcers. 3. It is probable that in these cases, as in all injuries of the stomach walls, the gastric juice continues the work of the initial ulcer. 4. The symptoms of gummatous ulcers may recall all the indications of simple ulcers; pains at the ensiform cartilage or the spine, intolerance of the stomach, vomiting of food, hæmatemesis, melæna, and cachexia. 5. None of these symptoms will permit us to affirm the syphilitic nature of the lesion. Whenever the signs of simple ulcer supervene in a syphilitic, we may suppose the stomach lesion to be itself syphilitic in character. 6. We must never fail to seek a history of syphilis in subjects of ulcers of the stomach. 7. Under such circumstances antisyphilitic remedies—viz., mercurials and iodide of potassium—are indicated. 8. It is all the more important to be on the lookout for syphilis in stomach lesions, inasmuch as its presence enables us to cure cases that might otherwise be given over to surgical interference.

The Practical Treatment of Scalds and Burns.—Dr. Newton D. Chapman, of Ludlowville, N. Y., sends the following account of a case which came under his observation: The patient, a man twenty-five years of age, was engaged in raking salt from a large vat filled with boiling brine when he made a misstep and fell backward into the brine. He was quickly taken out and his clothing cut from him. The author was sent for and found the patient in great agony. He gave him a hypodermic of morphine to quiet the pain, and strychnine and digitalis were given internally, and heat was applied externally to counteract shock. On examination Dr. Chapman found that both legs, one arm, the back, buttocks, scrotum, and one ear were burned to the fourth degree. He dressed the scalded area with soft muslin saturated with carbolized linseed oil and lime-water. In six hours the dressings were removed, and blisters, which had formed extensively wherever the skin had been immersed, were evacuated. The scalded area was redressed with carbolized Carron oil, and morphine and cardiac stimulants were given; also diuretics to relieve the congested kidneys. The patient's temperature was 102° F. and the pulse 120; he was very restless and delirious at night. These symptoms continued for nearly ten days, then gradually subsided. The dressings were changed from three to four times a day, and during the intervals they were kept moist with the oil solution. The removal of the dressings caused a great deal of pain; they were very offensive and the entire room had an odor which was very disagreeable.

On the tenth day the oil dressings were exchanged for unguentine dressings. The patient expressed great relief, and the wounds were dressed much more quickly and easily; it was found also that these dressings did not get dry and hard. The sloughing ceased and the odor disappeared. The unguentine acted speedily and effectually; it restored the destroyed tissues and skin, and in places where granulation tissue had appeared it cauterized and healed simultaneously. The patient made an uneventful recovery at the end of thirty days, and was free from the complications which attend other methods of treating burns and scalds.

Some of the advantages of unguentine as an ideal dressing, says the author, may be summarized as follows: 1. It is easy of application, affords great relief to the patient, acts as a sedative, and is cooling and non-irritating. 2. It does not dry out so quickly, and consequently the dressings do not have to be changed so often. 3. It is a rapid cicatrizant, and when used early prevents granulation tissue. 4. It is non-toxic, and patients recover more quickly under its use than under any other treatment. 5. It prevents the necessity of skin grafting in a good many cases by hastening the reparative process, and it is much more convenient, neat, and practicable.

The One Hundred and Forty-second Annual Commencement of the Medical Department of the University of Pennsylvania.—On June 8th exercises in celebration of the one hundred and fifty-eighth anniversary of the foundation of the university were held, and a hundred and eighty-two candidates received the degree of M. D. The procession of all the graduates of the college, doctors, lawyers, dentists, bachelors of arts and sciences, and veterinarians, all dressed in their academic robes, yellow and pink, scarlet and blue, purple and green, lilac and gray, preceded by a band and followed by the provost, professors, and instructors, formed an imposing sight. At the Academy of Music, where the commencement was held, a large crowd greeted the students, and many prayers were no doubt uttered with a happy "Godspeed" for the success of those who will so shortly go forth to fight life's battle. Many patriotic sentiments were expressed by the different speakers, after which the prizes were distributed and the degrees conferred.

The Abuse of Medical Charity.—Concerning the movement to restrict the abuse of medical charity in New York, Dr. Frederick H. Wiggin recently presented the following remarks: For many years past physicians whose fortune it has been to reside in large cities, both in this country and abroad, have realized in a general way that there was a serious and rapidly growing abuse of the facilities afforded by the charitably inclined for the purpose of relieving the sick poor. Attention has been called from time to time to this condition of affairs by the reports of investigators, but in this city the gravity of the situation was not fully realized until about eighteen months ago, when, owing to the efforts of Dr. Stephen Smith, a member of the New York State Board of Charities, and Dr. Landon Carter Gray, the actual condition of the local medical charities was specifically set forth. The existence of the abuse of medical charity in connection with the dispensary work of this city was easily proved, and a committee soon devoted all of its attention to seeking out a remedy. Further study seemed to indicate that one of the serious causes of the evil was a lack of proper methods of investigating the financial condition of those applying for outdoor medical relief. The Charity Organization Society was communicated with by the committee on this subject, and a reply was received from the president stating that a general investigation and cataloguing of all applicants for outdoor medical relief was entirely practicable, and that the society would undertake systematic investigation, provided the expense, which was estimated at twenty-five thousand dollars for the first year, could be assured. It was also stated that the expense for subsequent years would probably not exceed five thousand dollars.

Another important factor, in the opinion of the committee, in the production of the dispensary abuse was the system of charging small fees for medicines and apparatus. This led many people to feel that they were paying their way and had a right to apply for treatment regardless of their financial condition. As the object of dispensaries is to relieve the sick poor, and not the furnishing of medical advice and treatment at "bargain-counter prices," it seemed essential for the control of the evil that this system should be abolished. Another point which seemed important to the committee was that it should be made a misdemeanor, punishable by a moderate fine, for a person to obtain medical or surgical advice or treatment, medicine, or apparatus, from a dispensary by reason of false representations as to financial condition; and, furthermore, it seemed necessary that the attention of the public should be called to the fact that the dispensary was a place for the relief of the sick poor, by posting in the waiting-rooms of the dispensaries a placard stating this fact.

These points having been determined to be the essential factors in any general plan for the control of the abuse of medical charity, it was decided to communicate with the managers of all the dispensaries in this city, asking them the following questions: 1. Whether the governing board of the dispensary approved of the movement to abolish the abuse of medical charity. 2. Whether the governing board would cooperate with the committee of the Medical Society of the County of New York in the endeavor to dispense free medical treatment only to those applicants who were deserving and unable to pay a physician. 3. Whether or not the governing board would agree to place a placard in a conspicuous place in the dispensary, calling attention to the fact that the dispensary was intended only for the treatment of the sick poor, and that on and after a certain date every person applying for free medical treatment would be investigated for the purpose of determining whether or not the applicant was deserving of free medical service. To this was added a proviso that such an agreement on the part of the dispensary to the plan of the committee should not be considered as binding the dispensary to make such investigation at its own expense. Replies to these questions were received from seventy-six of the dispensaries, and, while many of the smaller dispensaries replied in the affirmative, the more important ones either replied affirmatively only on the condition that all dispensaries should agree to act, or declined to have anything to do with the matter. It soon became apparent that it would be impossible to get the managers of all the dispensaries in this city to agree voluntarily to any general plan.

It seems clear that if the existing abuse of medical charity is to be controlled, the first requisite is an impartial body which shall control and make rules and regulations for the government of all institutions seeking to do the semipublic service of undertaking to relieve the sick poor. Such a body is provided for by the legislature, under the constitution, in the State Board of Charities, which board is given the power to visit and inspect all institutions, whether State, county, or municipal, incorporated or unincorporated, which are of a charitable, eleemosynary, correctional, or reformatory character. The legislature has also given this board prohibitory powers over the charities under its supervision by providing that the board should approve or disapprove the organization and incorporation of all such institutions. This power extends even to controlling payments by counties, cities, towns, or villages to charitable, eleemosynary, correctional, or reformatory institutions for the support of the inmates. It is evident, therefore, that it would be only a slight extension of this power for the board to assume control and supervision of the dispensaries of the State by issuing and revoking licenses. As these institutions are largely supported by public money, charitable contributions, and trust funds, the necessity for a proper supervision of their accounts by the

State would seem imperative. Again, as dispensaries are primarily intended for the treatment of the sick poor only, it is evident that this object can be attained only through the exclusion of the well-to-do by an organized general system of investigation.

The St. Louis Medical Gazette.—This month there has appeared the first number of this new addition to the ranks of medical journalism. It is announced that "the *Gazette* will be uncontrolled and unaffected by any faction, school, or society, wishing rather to ignore than encourage these unfortunate conditions." The editorial staff consists of Dr. Martin F. Engman, managing editor, with Dr. Charles Chaddock, Dr. George C. Crandall, Dr. Carl Fisch, Dr. Frank L. Henderson, Dr. Phillip Hoffman, Dr. Bransford Lewis, Dr. Hanau W. Loeb, Dr. Norvelle W. Sharp, Dr. Albert S. J. Smith, and Dr. George M. Tuttle. The publisher is Mr. C. R. H. Davis.

The first number contains the following original articles: The Relative Indications of Tracheotomy and Intubation, by E. W. Saunders, M. D.; The Intravesical Bulb in Operations upon the Bladder, by F. Reder, M. D.; Hæmatological Remarks, by C. Fisch, M. D.; A Lecture on Uranalysis, by Hugo Summa, M. D.; A Case of Appendicitis: Operation, by John Young Brown, M. D.; and A Case of Tetanus in a Child treated with Antitoxine: Recovery, by John Zahorsky, M. D.

The *Gazette* devotes space to the following departments: Internal medicine, surgery (editorial), obstetrics and pædiatrics, genito-urinary and venereal (editorial), nose and throat (editorial), eye and ear, neurology, dermatology and syphilis (editorial), pathology and bacteriology, life insurance and diagnosis (editorial), miscellaneous, medical literature and book reviews, foreign and domestic news and notes, and commercial items. Altogether, the new venture promises well.

Admiral Dewey as a Patient.—The following note, from the *Lancet* for May 28th, will doubtless be of interest to our readers at the present time: A correspondent of the *Birmingham Daily Post* calls attention to the fact that Admiral Dewey, of the United States navy, whose recent naval exploit at Manila, involving the destruction of the Spanish fleet at that station, is in every one's recollection, was a patient in 1883 in the Royal Naval Hospital at Malta when Inspector-General of Hospitals Sir J. N. Dick, R. N. (late director-general of the Naval Medical Department), was at the head of that institution. Admiral Dewey (who was then in command of the United States corvette *Juniata*) was suffering from abscess of the liver, from which he made a successful recovery after surgical operation. The correspondent alludes to the pluck and fortitude exhibited by the patient during his severe illness on that occasion.

A Medical Governor for California.—According to the *Pacific Medical Journal* for June, there is some prospect of Dr. George C. Pardee, of Oakland, being at the head of the list on the State Republican ticket for Governor.

A Note of Russian Progress.—According to the *Philadelphia Medical News* for June 11th, a recent decree permits women physicians to enter the government service.

Spontaneous Combustion of Hydrogen Peroxide.—Mr. Charles H. La Wall (*American Journal of Pharmacy,* June) records an instance of the spontaneous combustion of peroxide of hydrogen used as an application on cheesecloth to a wrist affected by poison oak. The moistening of the cheesecloth being discontinued, several hours later an odor of burning clothes and severe pain in the wrist directed the patient's attention to the fact that the bandage was smoldering and was already charred black in many places. Before it could be removed it had caused several burns on the wrist, which required weeks to heal and which will show scars for several years.

A subsequent experiment with peroxide of hydrogen and cheesecloth produced the same result, which is attributed by the author as possibly due to a small amount of free sulphuric acid.

An Outspoken Opinion on Quack Advertisements.—According to the *Pacific Medical Journal* for June, the *Redlands California Citrograph* has expressed itself in terms on this subject which demand the greatest commendation. It says: "Another 'Weak Men' advertisement comes to us this week for publication. We are asked to fill out the contract at our regular rates and it will be accepted at our own figures. The blank is too small to hold our figures. The advertisement is not acceptable at any price. This class of advertisers are all fakes and humbugs, liars, swindlers, and thieves. We will not be a party to their fraud. If you are sick or ailing, go to the best regular physician of your own neighborhood and let the quacks severely alone if you value your health."

This is as it should be. We hope that the "sincerest flattery"—viz., imitation—will be paid to the *Citrograph* by some at least of its exchanges.

The Phenomena produced by Worms.—M. Chauson (*Gazette médicale de Paris,* June 4th), in a communication to the *Société médico-chirurgicale* on May 9th, said that it seems probable that a large number of the accidents produced by parasites of the alimentary canal are of a nature other than merely reflex. In connection with this view he quotes the quaint opinion of Avicenna: "From the body of worms comes a noxious vapor which rises to the brain; the constituents of these beings, absorbed with the chyle, pass into the blood and deprave the humors." Like some of the quaint foreshadowings of the now scientifically known germ theory, this statement is possibly not so ludicrous as it would at first sight seem, for M. Chauson says that he has himself seen persons who handled worms in the laboratory the subjects of various eruptions, of conjunctivitis, coryza, abnormal secretions of the nose and ears, pharyngitis, aphonia, etc. These phenomena he considers as manifestly produced, sometimes by an irritating vapor emitted from the bodies of the animals when cut into pieces, sometimes by direct contact of the worm juices with the parts attacked. He further calls attention to the eruption which not infrequently attends the puncture of hydatid cysts. Less known accidents, but of such a nature as to cause great inquietude to the assistants, are quoted in the *Archives générales de médecine,* 1888, by M. Huchard as attendant upon the simple puncture of a hydatid cyst. M. Chauffard (*Semaine médicale,* 1896) quotes a case of rapid death by asphyxia accompanied with eruption and convulsions, and taking place in twenty minutes after the puncture. Again, subcutaneous injections made by the author into guinea-pigs with liquid virus prepared from ascarides inhabiting the horse and the pig have caused respectively death with convulsions in a few minutes, rigidity of the lower limbs, with death in twelve hours, and death in twelve hours without any noticeable initial accidents. Several other guinea-pigs died in from fifty-six to seventy-two hours. From these facts the author concludes that in certain undetermined conditions the juices of human parasites, notably hydatids and ascarides, when absorbed into the system, may produce by their inherent toxicity accidents often serious, and even occasionally fatal. M. Jocqs quoted a case of xanthopsy and impairment of vision in a child where a dose of santonin, by bringing away several worms, effected a prompt cure of those symptoms which he deemed toxic, not merely reflex. M. Henocque pointed out that oxyurides more frequently caused nervous symptoms than ascarides. Several other speakers related cases most of which tended to support M. Chauson's views as to the toxic character of worm symptoms.

Transillumination of the Stomach.—Dr. C. A. Aaron (*Medical Age,* June 10th), in a paper read before the Michigan State Medical Society, speaks of his experience with Einhorn's gastrodiaphane, which consists, as described in the *New York Medical Journal* for December 3, 1892, of a soft-rubber stomach tube supplied with an incandescent light; inside of the tube are wires which are connected with a storage battery. This tube is introduced into the stomach just as a regular stomach tube. Under the bright glow of the lamp the stomach forms a lantern, and on account of the translucent tissue the outlines of the stomach are readily visible. Since Einhorn introduced transillumination of the stomach it has come into practice in Russia, Germany, France, and, in fact, in nearly every country of the world.

The following points, he says, should be observed in the transillumination of the stomach: 1. The stomach should be thoroughly cleansed of all remains of food before transillumination is attempted. 2. The bowels must be thoroughly evacuated and the bladder emptied. 3. Transillumination should take place in a darkened room. 4. The intensity of light should not be above four candle power. 5. The light should not be turned on until the gastrodiaphane has been introduced into the stomach. 6. Transillumination can be performed in both the erect and the lying postures. 7. It must be remembered that in the lying posture the light falls away from the anterior abdominal wall and at times the results are not as good as those obtained in the erect posture. 8. Fat produces refraction of light, which may mislead. 9. The thinner the abdominal walls of the patient are, the more reliable is the result. 10. By slowly moving the lamp the boundaries of the stomach are recognized. 11. The transilluminated zone has for its upper border the right and left lobes of the liver; these prevent the light from passing through. 12. The transilluminated stomach in the normal person moves during respiration.

The results obtained by transilluminating a pathological stomach are thus summarized: 1. We can determine the precise position of the stomach. 2. The size of the stomach can be positively made out. 3. Dilatation can be readily seen. 4. Gastroptosis can be made out. 5. The respiratory displacement of the stomach can be observed. This is a valuable point in distinguishing between dilatation and gastroptosis. 6. A vertical and a loop-shaped stomach are recognizable. 7. We may get information with regard to the transparency of the stomach; this is very valuable, for we can make out the probability of a tumor which otherwise may not be provable; for the rays penetrate translucent tissues, and when there is a thickening of the anterior wall of the stomach due to a growth, the light is retarded at that spot. All this, of course, will be controlled by constant reference to all other methods of examination. 8. We may also be informed as to the tumors of the lower border of the liver and of enlargements and dislocations of the spleen. 9. All other methods for diagnosis may be employed, for transillumination does not replace them, but is a valuable adjuvant to them.

The illustrations in the article are of service.

Harlem Medical Association.—At the ninth regular meeting of this society, held on Monday, June 13th, the following officers were unanimously elected: President, Dr. Philip Arthur Malleson; vice-president, Dr. Henry W. Mooney; secretary, Dr. Joseph E. Lumbard; treasurer, Dr. Charles A. Clinton; trustees, Dr. David Franklin, Dr. Samuel E. Gibbs, and Dr. Henry J. Wolf.

The Chicago Society of Internal Medicine.—This new society has been organized with the following advisory board: President, Dr. John A. Robison; vice-president, Dr. John H. Hollister; secretary, Dr. Edward F. Wells; treasurer, Dr. Lester Curtis; censors, Dr. Henry M. Lyman, Dr. Henry B. Favill, and Dr. Arthur R. Edwards. It is stated that the censors have exercised great care in limiting the charter membership to gentlemen of reputation in internal medicine, and future admissions will be approved by thesis. Applications for membership, the dues for which are three dollars, should be sent to Dr. Lester Curtis, 35 University Place, Chicago. A regular meeting was to be held on Thursday evening, June 23d, at 8 P. M., in the hall of the Chicago Medical Society, 92 State Street, of the proceedings of which the following is a programme:

Dr. Gustav Fütterer: The Rapidity of the Dissemination of Micro-organisms throughout the System when Introduced into the Portal Vein. (Synopsis: Report of experiments showing that bacteria pass through the portal into the general circulation with great rapidity, less than one minute being required for their appearance in the general circulation after being introduced into the portal vein.) Dr. George F. Butler: Chronic Parenchymatous Nephritis and Aortic Regurgitation, with Enormous Dilatation of the Heart. (Synopsis: Report of a case, with a consideration of the diagnosis of aortic insufficiency, by means of secondary effects, in cases without murmur. The rôle of chronic parenchymatous nephritis in these cases. Indications for the use of digitalis in aortic regurgitation. Dietetic and hygienic management.)

The Canadian Medical Association.—The thirty-first annual meeting of the Canadian Medical Association is announced to be held in Laval University at Quebec on August 17th, 18th, and 19th next. Physicians desiring to present papers are requested to send in the titles before July 20th. Arrangements have been made for a fare-and-a-third rate on the certificate plan, by both steamboat and railway lines, and also for the facilitating of side-trips by physicians and their families. Dr. F. N. G. Starr, general secretary, of 471 College Street, Toronto, will afford further information if required.

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